

| OC Pesticides in Soil<br>Our Reference:<br>Your Reference<br><br>Sample Type<br>Depth | UNITS<br>-----<br>----- | 34227-97<br>Composit<br>e K<br>soil | 34227-99<br>Composit<br>e M<br>soil | 34227-101<br>Composit<br>e O<br>soil | 34227-102<br>Composit<br>e P<br>soil | 34227-104<br>Composit<br>e R<br>soil |
|---------------------------------------------------------------------------------------|-------------------------|-------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| HCB                                                                                   | mg/kg                   | <0.1                                | <0.1                                | <0.1                                 | <0.1                                 | <0.1                                 |
| BHC (other than g-BHC)                                                                | mg/kg                   | <0.3                                | <0.3                                | <0.3                                 | <0.3                                 | <0.3                                 |
| <i>gamma</i> -BHC(Lindane)                                                            | mg/kg                   | <0.1                                | <0.1                                | <0.1                                 | <0.1                                 | <0.1                                 |
| Heptachlor Epoxide                                                                    | mg/kg                   | <0.1                                | <0.1                                | <0.1                                 | <0.1                                 | <0.1                                 |
| Heptachlor                                                                            | mg/kg                   | <0.1                                | <0.1                                | <0.1                                 | <0.1                                 | <0.1                                 |
| Methoxychlor                                                                          | mg/kg                   | <0.1                                | <0.1                                | <0.1                                 | <0.1                                 | <0.1                                 |
| Aldrin                                                                                | mg/kg                   | <0.1                                | <0.1                                | <0.1                                 | <0.1                                 | <0.1                                 |
| Dieldrin                                                                              | mg/kg                   | <0.05                               | <0.05                               | <0.05                                | <0.05                                | <0.05                                |
| Endrin                                                                                | mg/kg                   | <0.1                                | <0.1                                | <0.1                                 | <0.1                                 | <0.1                                 |
| Endosulfan                                                                            | mg/kg                   | <0.2                                | <0.2                                | <0.2                                 | <0.2                                 | <0.2                                 |
| Endosulfan Sulphate                                                                   | mg/kg                   | <0.1                                | <0.1                                | <0.1                                 | <0.1                                 | <0.1                                 |
| DDD                                                                                   | mg/kg                   | <0.2                                | <0.2                                | <0.2                                 | <0.2                                 | <0.2                                 |
| DDE                                                                                   | mg/kg                   | <0.2                                | <0.2                                | <0.2                                 | <0.2                                 | <0.2                                 |
| DDT                                                                                   | mg/kg                   | <0.2                                | <0.2                                | <0.2                                 | <0.2                                 | <0.2                                 |
| Chlordane ( <i>trans&amp;cis</i> )                                                    | mg/kg                   | <0.2                                | <0.2                                | <0.2                                 | <0.2                                 | <0.2                                 |
| <i>Surrogate</i>                                                                      | %                       | 116                                 | 71                                  | 80                                   | 87                                   | 118                                  |

|                                                                          |                         |                                     |                                   |
|--------------------------------------------------------------------------|-------------------------|-------------------------------------|-----------------------------------|
| PCBs in Soil<br>Our Reference:<br>Your Reference<br>Sample Type<br>Depth | UNITS<br>-----<br>----- | 34227-1<br>BH25<br>soil<br>0.1-0.25 | 34227-8<br>BH31<br>soil<br>0-0.15 |
| total PCB (Arochlor 1016 to 1268)                                        | mg/kg                   | <0.90                               | <0.90                             |
| Surrogate                                                                | %                       | 98                                  | 118                               |



| 12 heavy metals in soil<br>Our Reference:<br>Your Reference | UNITS<br>----- | 34227-1<br>BH25  | 34227-2<br>BH25  | 34227-8<br>BH31 | 34227-9<br>BH31  | 34227-85<br>Duplicate<br>DS4<br>soil |
|-------------------------------------------------------------|----------------|------------------|------------------|-----------------|------------------|--------------------------------------|
| Sample Type<br>Depth                                        | -----          | soil<br>0.1-0.25 | soil<br>0.25-0.4 | soil<br>0-0.15  | soil<br>0.15-0.3 |                                      |
| Arsenic                                                     | mg/kg          | <3               | <3               | 3               | 4                | <3                                   |
| Boron                                                       | mg/kg          | <5               | <5               | <5              | <5               | [NA]                                 |
| Cadmium                                                     | mg/kg          | <0.5             | <0.5             | <0.5            | <0.5             | <0.5                                 |
| Chromium                                                    | mg/kg          | 41               | 18               | 10              | 12               | 9                                    |
| Copper                                                      | mg/kg          | 49               | 17               | 12              | 23               | 12                                   |
| Lead                                                        | mg/kg          | 13               | 7                | 15              | 16               | 17                                   |
| Mercury                                                     | mg/kg          | <0.05            | <0.05            | <0.05           | <0.05            | <0.05                                |
| Nickel                                                      | mg/kg          | 94               | 21               | 6               | 8                | 7                                    |
| Selenium                                                    | mg/kg          | <2               | <2               | <2              | <2               | [NA]                                 |
| Zinc                                                        | mg/kg          | 58               | 21               | 28              | 31               | 27                                   |

| 12 heavy metals in soil<br>Our Reference:<br>Your Reference | UNITS<br>----- | 34227-86<br>Duplicate<br>DS5<br>soil | 34227-87<br>Composite<br>A<br>soil | 34227-88<br>Composite<br>B<br>soil | 34227-89<br>Composite<br>C<br>soil | 34227-90<br>Composite<br>D<br>soil |
|-------------------------------------------------------------|----------------|--------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Sample Type<br>Depth                                        | -----          |                                      |                                    |                                    |                                    |                                    |
| Arsenic                                                     | mg/kg          | 4                                    | 5                                  | 5                                  | 3                                  | <3                                 |
| Cadmium                                                     | mg/kg          | <0.5                                 | <0.5                               | <0.5                               | <0.5                               | <0.5                               |
| Chromium                                                    | mg/kg          | 12                                   | 13                                 | 12                                 | 11                                 | 8                                  |
| Copper                                                      | mg/kg          | 16                                   | 18                                 | 21                                 | 27                                 | 10                                 |
| Lead                                                        | mg/kg          | 23                                   | 20                                 | 23                                 | 28                                 | 18                                 |
| Mercury                                                     | mg/kg          | <0.05                                | <0.05                              | <0.05                              | <0.05                              | <0.05                              |
| Nickel                                                      | mg/kg          | 10                                   | 11                                 | 9                                  | 7                                  | 5                                  |
| Zinc                                                        | mg/kg          | 32                                   | 31                                 | 33                                 | 30                                 | 25                                 |

| 12 heavy metals in soil<br>Our Reference:<br>Your Reference | UNITS<br>----- | 34227-91<br>Composite<br>E<br>soil | 34227-92<br>Composite<br>F<br>soil | 34227-93<br>Composite<br>G<br>soil | 34227-94<br>Composite<br>H<br>soil | 34227-95<br>Composite I<br>soil |
|-------------------------------------------------------------|----------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|---------------------------------|
| Sample Type<br>Depth                                        | -----          |                                    |                                    |                                    |                                    |                                 |
| Arsenic                                                     | mg/kg          | 11                                 | <3                                 | 5                                  | 5                                  | 5                               |
| Cadmium                                                     | mg/kg          | <0.5                               | <0.5                               | <0.5                               | <0.5                               | <0.5                            |
| Chromium                                                    | mg/kg          | 10                                 | 9                                  | 12                                 | 12                                 | 14                              |
| Copper                                                      | mg/kg          | 11                                 | 12                                 | 18                                 | 17                                 | 21                              |
| Lead                                                        | mg/kg          | 21                                 | 18                                 | 22                                 | 20                                 | 33                              |
| Mercury                                                     | mg/kg          | <0.05                              | <0.05                              | <0.05                              | <0.05                              | <0.05                           |
| Nickel                                                      | mg/kg          | 6                                  | 7                                  | 10                                 | 9                                  | 11                              |

| 12 heavy metals in soil<br>Our Reference:<br>Your Reference<br><br>Sample Type<br>Depth | UNITS<br>-----<br>----- | 34227-91<br>Composite E<br>soil | 34227-92<br>Composite F<br>soil | 34227-93<br>Composite G<br>soil | 34227-94<br>Composite H<br>soil | 34227-95<br>Composite I<br>soil |
|-----------------------------------------------------------------------------------------|-------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Zinc                                                                                    | mg/kg                   | 37                              | 26                              | 29                              | 26                              | 42                              |

| 12 heavy metals in soil<br>Our Reference:<br>Your Reference<br><br>Sample Type<br>Depth | UNITS<br>-----<br>----- | 34227-96<br>Composite J<br>soil | 34227-97<br>Composite K<br>soil | 34227-98<br>Composite L<br>soil | 34227-99<br>Composite M<br>soil | 34227-100<br>Composite N<br>soil |
|-----------------------------------------------------------------------------------------|-------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|
| Arsenic                                                                                 | mg/kg                   | <3                              | 3                               | 5                               | 5                               | 4                                |
| Cadmium                                                                                 | mg/kg                   | <0.5                            | <0.5                            | <0.5                            | <0.5                            | <0.5                             |
| Chromium                                                                                | mg/kg                   | 6                               | 9                               | 15                              | 12                              | 11                               |
| Copper                                                                                  | mg/kg                   | 7                               | 10                              | 20                              | 16                              | 14                               |
| Lead                                                                                    | mg/kg                   | 9                               | 14                              | 22                              | 21                              | 19                               |
| Mercury                                                                                 | mg/kg                   | <0.05                           | <0.05                           | <0.05                           | <0.05                           | <0.05                            |
| Nickel                                                                                  | mg/kg                   | 4                               | 8                               | 10                              | 11                              | 8                                |
| Zinc                                                                                    | mg/kg                   | 13                              | 20                              | 34                              | 27                              | 23                               |

| 12 heavy metals in soil<br>Our Reference:<br>Your Reference<br><br>Sample Type<br>Depth | UNITS<br>-----<br>----- | 34227-101<br>Composite O<br>soil | 34227-102<br>Composite P<br>soil | 34227-103<br>Composite Q<br>soil | 34227-104<br>Composite R<br>soil |
|-----------------------------------------------------------------------------------------|-------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Arsenic                                                                                 | mg/kg                   | <3                               | 4                                | 3                                | <3                               |
| Cadmium                                                                                 | mg/kg                   | <0.5                             | <0.5                             | <0.5                             | <0.5                             |
| Chromium                                                                                | mg/kg                   | 7                                | 10                               | 10                               | 9                                |
| Copper                                                                                  | mg/kg                   | 9                                | 15                               | 13                               | 12                               |
| Lead                                                                                    | mg/kg                   | 15                               | 21                               | 15                               | 24                               |
| Mercury                                                                                 | mg/kg                   | <0.05                            | <0.05                            | <0.05                            | <0.05                            |
| Nickel                                                                                  | mg/kg                   | 5                                | 9                                | 7                                | 6                                |
| Zinc                                                                                    | mg/kg                   | 16                               | 27                               | 19                               | 21                               |

|                                              |                |                  |                 |                              |                              |                            |
|----------------------------------------------|----------------|------------------|-----------------|------------------------------|------------------------------|----------------------------|
| Moisture<br>Our Reference:<br>Your Reference | UNITS<br>----- | 34227-1<br>BH25  | 34227-8<br>BH31 | 34227-85<br>Duplicate<br>DS4 | 34227-86<br>Duplicate<br>DS5 | 34227-87<br>Composite<br>A |
| Sample Type<br>Depth                         | -----          | soil<br>0.1-0.25 | soil<br>0-0.15  | soil                         | soil                         | soil                       |
| Moisture                                     | %              | 7.6              | 6.2             | 8.9                          | 9.9                          | 12                         |

|                                              |                |                            |                            |                            |                            |                         |
|----------------------------------------------|----------------|----------------------------|----------------------------|----------------------------|----------------------------|-------------------------|
| Moisture<br>Our Reference:<br>Your Reference | UNITS<br>----- | 34227-88<br>Composite<br>B | 34227-90<br>Composite<br>D | 34227-92<br>Composite<br>F | 34227-93<br>Composite<br>G | 34227-95<br>Composite I |
| Sample Type<br>Depth                         | -----          | soil                       | soil                       | soil                       | soil                       | soil                    |
| Moisture                                     | %              | 14                         | 4.2                        | 9.6                        | 12                         | 13                      |

|                                              |                |                            |                            |                             |                             |                             |
|----------------------------------------------|----------------|----------------------------|----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Moisture<br>Our Reference:<br>Your Reference | UNITS<br>----- | 34227-97<br>Composite<br>K | 34227-99<br>Composite<br>M | 34227-101<br>Composite<br>O | 34227-102<br>Composite<br>P | 34227-104<br>Composite<br>R |
| Sample Type<br>Depth                         | -----          | soil                       | soil                       | soil                        | soil                        | soil                        |
| Moisture                                     | %              | 7.6                        | 11                         | 5.0                         | 9.9                         | 7.3                         |

| Method ID      | Methodology Summary                                                                                                                                                                                                                                                                                                                                                                      |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SEO-017</b> | BTEX/TRH C6-C9 - Determination by Purge and Trap Gas Chromatography with Flame Ionisation Detection (FID) and Photo Ionisation Detection (PID). The surrogate spike used is aaa-trifluorotoluene.                                                                                                                                                                                        |
| <b>SEO-020</b> | TRH - Determination of Total Recoverable Hydrocarbons by gas chromatography following extraction with DCM/Acetone for solids and DCM for liquids.                                                                                                                                                                                                                                        |
| <b>SEO-030</b> | PAHs by GC/MS - Determination of Polynuclear Aromatic Hydrocarbons (PAH's) by Gas Chromatography / Mass Spectrometry following extraction with dichloromethane or dichloromethane/acetone. The surrogate spike used is p-Terphenyl-d14.                                                                                                                                                  |
| <b>SEO-005</b> | OC/OP/PCB - Determination of a suite of Organchlorine Pesticides, Chlorinated Organo-phosphorus Pesticides and Polychlorinated Biphenyls (PCB's) by sonication extraction using dichloromethane for waters or acetone / hexane for soils followed by Gas Chromatographic separation with Electron Capture Detection (GC /ECD). The surrogate spike used is 2,4,5,6-Tetrachloro-m-xylene. |
| <b>SEM-010</b> | Metals - Determination of various metals by ICP-AES following aqua regia digest.                                                                                                                                                                                                                                                                                                         |
| <b>Ext-034</b> | Analysed by MGT, Victoria.                                                                                                                                                                                                                                                                                                                                                               |
| <b>SEM-005</b> | Mercury - Determination of Mercury by Cold Vapour Generation Atomic Absorption Spectroscopy.                                                                                                                                                                                                                                                                                             |
| <b>SEP-001</b> | Air Dry - Cover air drying at 40 C, moisture content at 103 C - 105 C, wet slurring, compositing and preparation of a 1:5 soil suspension.                                                                                                                                                                                                                                               |



| QUALITY CONTROL                        | UNITS | PQL  | METHOD  | Blank | Duplicate Sm# | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
|----------------------------------------|-------|------|---------|-------|---------------|--------------------------------------|-----------|------------------------------------------------|
| BTEX in Soil                           |       |      |         |       |               |                                      |           |                                                |
| Benzene                                | mg/kg | 0.5  | SEO-017 | <0.50 | [NT]          | [NT]                                 | Batch     | 78    79    RPD: 1                             |
| Toluene                                | mg/kg | 0.5  | SEO-017 | <0.50 | [NT]          | [NT]                                 | Batch     | 84    87    RPD: 4                             |
| Ethylbenzene                           | mg/kg | 0.5  | SEO-017 | <0.50 | [NT]          | [NT]                                 | Batch     | 99    103    RPD: 4                            |
| Total Xylenes                          | mg/kg | 1.5  | SEO-017 | <1.5  | [NT]          | [NT]                                 | Batch     | 94    94    RPD: 0                             |
| Surrogate                              | %     |      | SEO-017 | [NT]  | [NT]          | [NT]                                 | Batch     | 113    108    RPD: 5                           |
| QUALITY CONTROL                        | UNITS | PQL  | METHOD  | Blank | Duplicate Sm# | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
| Total Recoverable Hydrocarbons in Soil |       |      |         |       |               |                                      |           |                                                |
| TRH C6 - C9 P&T                        | mg/kg | 20   | SEO-017 | <20   | [NT]          | [NT]                                 | Batch     | 92    96    RPD: 4                             |
| TRH C10 - C14                          | mg/kg | 20   | SEO-020 | <20   | [NT]          | [NT]                                 | Batch     | 95    88    RPD: 8                             |
| TRH C15 - C28                          | mg/kg | 50   | SEO-020 | <50   | [NT]          | [NT]                                 | Batch     | 94    99    RPD: 5                             |
| TRH C29 - C40                          | mg/kg | 50   | SEO-020 | <50   | [NT]          | [NT]                                 | Batch     | 109    109    RPD: 0                           |
| QUALITY CONTROL                        | UNITS | PQL  | METHOD  | Blank | Duplicate Sm# | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
| PAHs in Soil                           |       |      |         |       |               |                                      |           |                                                |
| Naphthalene                            | mg/kg | 0.1  | SEO-030 | <0.1  | [NT]          | [NT]                                 | Batch     | 95    92    RPD: 3                             |
| Acenaphthylene                         | mg/kg | 0.1  | SEO-030 | <0.1  | [NT]          | [NT]                                 | Batch     | 99    101    RPD: 2                            |
| Acenaphthene                           | mg/kg | 0.1  | SEO-030 | <0.1  | [NT]          | [NT]                                 | Batch     | 102    104    RPD: 2                           |
| Fluorene                               | mg/kg | 0.1  | SEO-030 | <0.1  | [NT]          | [NT]                                 | Batch     | [NT]                                           |
| Phenanthrene                           | mg/kg | 0.1  | SEO-030 | <0.1  | [NT]          | [NT]                                 | Batch     | 102    106    RPD: 4                           |
| Anthracene                             | mg/kg | 0.1  | SEO-030 | <0.1  | [NT]          | [NT]                                 | Batch     | 109    114    RPD: 4                           |
| Fluoranthene                           | mg/kg | 0.1  | SEO-030 | <0.1  | [NT]          | [NT]                                 | Batch     | 106    110    RPD: 4                           |
| Pyrene                                 | mg/kg | 0.1  | SEO-030 | <0.1  | [NT]          | [NT]                                 | Batch     | 103    107    RPD: 4                           |
| Benzo[a]anthracene                     | mg/kg | 0.1  | SEO-030 | <0.1  | [NT]          | [NT]                                 | Batch     | [NT]                                           |
| Chrysene                               | mg/kg | 0.1  | SEO-030 | <0.1  | [NT]          | [NT]                                 | Batch     | [NT]                                           |
| Benzo[b,k]fluoranthene                 | mg/kg | 0.2  | SEO-030 | <0.2  | [NT]          | [NT]                                 | Batch     | [NT]                                           |
| Benzo[a]pyrene                         | mg/kg | 0.05 | SEO-030 | <0.05 | [NT]          | [NT]                                 | Batch     | 109    112    RPD: 3                           |
| Indeno[123-cd]pyrene                   | mg/kg | 0.1  | SEO-030 | <0.1  | [NT]          | [NT]                                 | Batch     | [NT]                                           |
| Dibenzo[ah]anthracene                  | mg/kg | 0.1  | SEO-030 | <0.1  | [NT]          | [NT]                                 | Batch     | [NT]                                           |
| Benzo[ghi]perylene                     | mg/kg | 0.1  | SEO-030 | <0.1  | [NT]          | [NT]                                 | Batch     | [NT]                                           |
| Surrogate                              | %     |      | SEO-030 | [NT]  | [NT]          | [NT]                                 | Batch     | 122    123    RPD: 1                           |



| QUALITY CONTROL<br>OC Pesticides in Soil   | UNITS | PQL  | METHOD  | Blank | Duplicate<br>Sm# | Duplicate<br>Base + Duplicate<br>+ %RPD | Spike<br>Sm# | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
|--------------------------------------------|-------|------|---------|-------|------------------|-----------------------------------------|--------------|------------------------------------------------|
| HCB                                        | mg/kg | 0.1  | SEO-005 | <0.1  | 34227-1          | <0.1    <0.1                            | 34227-8      | [NT]                                           |
| BHC (other than g-BHC)                     | mg/kg | 0.3  | SEO-005 | <0.3  | 34227-1          | <0.3    <0.3                            | 34227-8      | 84    97    RPD: 14                            |
| gamma-BHC(Lindane)                         | mg/kg | 0.1  | SEO-005 | <0.1  | 34227-1          | <0.1    <0.1                            | 34227-8      | [NT]                                           |
| Heptachlor Epoxide                         | mg/kg | 0.1  | SEO-005 | <0.1  | 34227-1          | <0.1    <0.1                            | 34227-8      | [NT]                                           |
| Heptachlor                                 | mg/kg | 0.1  | SEO-005 | <0.1  | 34227-1          | <0.1    <0.1                            | 34227-8      | 84    98    RPD: 15                            |
| Methoxychlor                               | mg/kg | 0.1  | SEO-005 | <0.1  | 34227-1          | <0.1    <0.1                            | 34227-8      | [NT]                                           |
| Aldrin                                     | mg/kg | 0.1  | SEO-005 | <0.1  | 34227-1          | <0.1    <0.1                            | 34227-8      | 85    99    RPD: 15                            |
| Dieldrin                                   | mg/kg | 0.05 | SEO-005 | <0.05 | 34227-1          | <0.05    <0.05                          | 34227-8      | 84    97    RPD: 14                            |
| Endrin                                     | mg/kg | 0.1  | SEO-005 | <0.1  | 34227-1          | <0.1    <0.1                            | 34227-8      | [NT]                                           |
| Endosulfan                                 | mg/kg | 0.2  | SEO-005 | <0.2  | 34227-1          | <0.2    <0.2                            | 34227-8      | [NT]                                           |
| Endosulfan Sulphate                        | mg/kg | 0.1  | SEO-005 | <0.1  | 34227-1          | <0.1    <0.1                            | 34227-8      | 63    87    RPD: 32                            |
| DDD                                        | mg/kg | 0.2  | SEO-005 | <0.2  | 34227-1          | <0.2    <0.2                            | 34227-8      | [NT]                                           |
| DDE                                        | mg/kg | 0.2  | SEO-005 | <0.2  | 34227-1          | <0.2    <0.2                            | 34227-8      | [NT]                                           |
| DDT                                        | mg/kg | 0.2  | SEO-005 | <0.2  | 34227-1          | <0.2    <0.2                            | 34227-8      | 74    91    RPD: 21                            |
| Chlordane (trans&cis )                     | mg/kg | 0.2  | SEO-005 | <0.2  | 34227-1          | <0.2    <0.2                            | 34227-8      | [NT]                                           |
| Surrogate                                  | %     |      | SEO-005 | [NT]  | 34227-1          | 98    108    RPD: 10                    | 34227-8      | 83    91    RPD: 9                             |
| QUALITY CONTROL<br>PCBs in Soil            | UNITS | PQL  | METHOD  | Blank | Duplicate<br>Sm# | Duplicate<br>Base + Duplicate +<br>%RPD | Spike Sm#    | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
| total PCB (Arochlor 1016<br>to 1268)       | mg/kg | 0.9  | SEO-005 | <0.90 | 34227-1          | <0.90    <0.90                          | Batch        | 108    127    RPD:<br>16                       |
| Surrogate                                  | %     |      | SEO-005 | [NT]  | 34227-1          | 98    108    RPD: 10                    | Batch        | 111    96    RPD: 14                           |
| QUALITY CONTROL<br>12 heavy metals in soil | UNITS | PQL  | METHOD  | Blank | Duplicate<br>Sm# | Duplicate<br>Base + Duplicate +<br>%RPD | Spike Sm#    | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
| Arsenic                                    | mg/kg | 3    | SEM-010 | <3    | 34227-1          | <3    <3                                | 34227-2      | 96    98    RPD: 2                             |
| Boron                                      | mg/kg | 0.5  | Ext-034 | <0.5  | 34227-1          | <5    [N/T]                             | 34227-2      | [NT]                                           |
| Cadmium                                    | mg/kg | 0.5  | SEM-010 | <0.5  | 34227-1          | <0.5    <0.5                            | 34227-2      | 101    103    RPD: 2                           |
| Chromium                                   | mg/kg | 0.5  | SEM-010 | <0.5  | 34227-1          | 41    37    RPD: 10                     | 34227-2      | 93    95    RPD: 2                             |
| Copper                                     | mg/kg | 0.5  | SEM-010 | <0.5  | 34227-1          | 49    47    RPD: 4                      | 34227-2      | 99    105    RPD: 6                            |
| Lead                                       | mg/kg | 2    | SEM-010 | <2    | 34227-1          | 13    12    RPD: 8                      | 34227-2      | 90    92    RPD: 2                             |
| Mercury                                    | mg/kg | 0.05 | SEM-005 | <0.05 | 34227-1          | <0.05    <0.05                          | 34227-2      | 98    102    RPD: 4                            |
| Nickel                                     | mg/kg | 0.2  | SEM-010 | <0.2  | 34227-1          | 94    94    RPD: 0                      | 34227-2      | 94    94    RPD: 0                             |
| Selenium                                   | mg/kg | 2    | SEM-010 | <2    | 34227-1          | <2    <2                                | 34227-2      | 90    93    RPD: 3                             |
| Zinc                                       | mg/kg | 0.5  | SEM-010 | <0.5  | 34227-1          | 58    54    RPD: 7                      | 34227-2      | 99    97    RPD: 2                             |



| QUALITY CONTROL         | UNITS | PQL       | METHOD                  | Blank     | Duplicate Sm#           | Duplicate               |
|-------------------------|-------|-----------|-------------------------|-----------|-------------------------|-------------------------|
| Moisture                |       |           |                         |           |                         | Base + Duplicate + %RPD |
| Moisture                | %     |           | SEP-001                 | [NT]      | 34227-1                 | 7.6    7.6    RPD: 0    |
| QUALITY CONTROL         | UNITS | Dup. Sm#  | Duplicate               | Spike Sm# | Matrix Spike % Recovery |                         |
| 12 heavy metals in soil |       |           | Base + Duplicate + %RPD |           | Duplicate + %RPD        |                         |
| Arsenic                 | mg/kg | 34227-101 | <3    <3                | 34227-102 | 99    95    RPD: 4      |                         |
| Boron                   | mg/kg | [NT]      | [NT]                    | 34227-102 | [NT]                    |                         |
| Cadmium                 | mg/kg | 34227-101 | <0.5    <0.5            | 34227-102 | 105    102    RPD: 3    |                         |
| Chromium                | mg/kg | 34227-101 | 7    6    RPD: 15       | 34227-102 | 97    94    RPD: 3      |                         |
| Copper                  | mg/kg | 34227-101 | 9    9    RPD: 0        | 34227-102 | 105    103    RPD: 2    |                         |
| Lead                    | mg/kg | 34227-101 | 15    16    RPD: 6      | 34227-102 | 94    90    RPD: 4      |                         |
| Mercury                 | mg/kg | 34227-101 | <0.05    <0.05          | 34227-102 | [NT]                    |                         |
| Nickel                  | mg/kg | 34227-101 | 5    5    RPD: 0        | 34227-102 | 97    93    RPD: 4      |                         |
| Selenium                | mg/kg | [NT]      | [NT]                    | 34227-102 | [NT]                    |                         |
| Zinc                    | mg/kg | 34227-101 | 16    15    RPD: 6      | 34227-102 | 98    94    RPD: 4      |                         |



**Result Codes**

[INS] : Insufficient Sample for this test  
[NR] : Not Requested  
[NT] : Not tested

[HBG] : Results not Reported due to High Background Interference  
\* : Not part of NATA Accreditation  
[N/A] : Not Applicable

**Result Comments**

Boron was analysed by MGT report no 179165P.

Date Organics extraction commenced: 18/1/05

NATA Corporate Accreditation No. 2562, Site No 4354

Note: Test results are not corrected for recovery (excluding Dioxins/Furans and PAH in XAD and PUF).

**Quality Control Protocol**

**Reagent Blank:** Sample free reagents carried through the preparation/extraction/digestion procedure and analysed at the beginning of every sample batch analysis. For larger projects, a reagent blank is prepared and analysed with every 20 samples.

**Duplicate:** A separate portion of a sample being analysed which is treated the same as the other samples in the batch.

A duplicate is prepared at least every 20 samples.

**Matrix Spike Duplicates:** Sample replicates spiked with identical concentrations of target analyte(s). The spiking occurs during the sample preparation and prior to the extraction/digestion procedure. They are used to document the precision and bias of a method in a given sample matrix. Where there is not enough sample available to prepare a spiked sample, another known soil/sand or water (or Milli-Q water) may be used. A duplicate spiked sample is prepared at least every 20 samples.

**Surrogate Spike:** Added to all samples requiring analysis for organics (where relevant) prior to extraction. Used to determine the extraction efficiency. They are organic compounds which are similar to the target analyte(s) in chemical composition and behaviour in the analytical process, but which are not normally found in environmental samples.

**Internal Standard:** Added to all samples requiring analysis for organics (where relevant) after the extraction process; the compounds serve to give a standard of retention time and response, which is invariant from run-to-run with the instruments.

**Control Standards:** Prepared from a source independent of the calibration standards. At least one control standard is included in each run to confirm calibration validity.

**Additional QC Samples:** A calibration standard and blank are run after every 20 samples of an instrumental analysis run to assess analytical drift.



# GEOTECHNIQUE PTY LTD

Lemko Place  
PENRITH NSW 2750 P O Box 880  
PENRITH NSW 2751  
Tel: (02) 4722 2700  
Fax: (02) 4722 6161  
email: info@geotech.com.au

TO: SGS ENVIRONMENTAL SERVICES  
BOTANY TECHNICAL CENTRE  
ORICA INDUSTRIAL PARK, GATE 3, DENISON STREET  
MATRAVILLE NSW 2036

PH: 02 9666 1426 FAX: 02 9666 1364

ATTN: TANIA NOTARAS

## Laboratory Test Request / Chain of Custody Record

Sampling Date: 7+10 Jan 2005 Job No: 2883/1  
Sampled By: DP Project:  
Project Manager: PG Location: Penrith

Page 1 of 10

Results required by: WEDNESDAY, 19 - 01 - 2005

| Sampling details |              | Sample type |       | Heavy Metals<br>As, B, Cd, Cr, Cu, Pb<br>Hg, Ni, Se, Sn and Zn |   |   |   | TPH*<br>&<br>BTEX |   | PAH |   | PCB |   | OCP |   | SGS |   | KEEP<br>SAMPLE |   |
|------------------|--------------|-------------|-------|----------------------------------------------------------------|---|---|---|-------------------|---|-----|---|-----|---|-----|---|-----|---|----------------|---|
| Location         | Depth<br>(m) | Soil        | Water |                                                                |   |   |   |                   |   |     |   |     |   |     |   |     |   |                |   |
| BH25             | 1            | 0.1-0.25    | USG   | ✓                                                              | ✓ | ✓ | ✓ | ✓                 | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓              | ✓ |
| BH25             | 2            | 0.25-0.4    | USG   | ✓                                                              | ✓ | ✓ | ✓ | ✓                 | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓              | ✓ |
| BH26             | 3            | 0-0.15      | USG   | ✓                                                              | ✓ | ✓ | ✓ | ✓                 | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓              | ✓ |
| BH27             | 4            | 0-0.15      | USG   | ✓                                                              | ✓ | ✓ | ✓ | ✓                 | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓              | ✓ |
| BH28             | 5            | 0-0.15      | USG   | ✓                                                              | ✓ | ✓ | ✓ | ✓                 | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓              | ✓ |
| BH29             | 6            | 0-0.15      | USG   | ✓                                                              | ✓ | ✓ | ✓ | ✓                 | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓              | ✓ |
| BH30             | 7            | 0-0.15      | USG   | ✓                                                              | ✓ | ✓ | ✓ | ✓                 | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓              | ✓ |
| BH31             | 8            | 0-0.15      | USG   | ✓                                                              | ✓ | ✓ | ✓ | ✓                 | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓              | ✓ |
| BH31             | 9            | 0.15-0.3    | USG   | ✓                                                              | ✓ | ✓ | ✓ | ✓                 | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓              | ✓ |
| BH32             | 10           | 0-0.15      | USG   | ✓                                                              | ✓ | ✓ | ✓ | ✓                 | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓              | ✓ |
| BH33             | 11           | 0-0.15      | USG   | ✓                                                              | ✓ | ✓ | ✓ | ✓                 | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓              | ✓ |
| BH34             | 12           | 0-0.15      | USG   | ✓                                                              | ✓ | ✓ | ✓ | ✓                 | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓   | ✓ | ✓              | ✓ |

Relinquished by: Name: PAUL GORMAN Signature: [Signature] Date: 12/01/2005  
Received by: Name: [Signature] Signature: [Signature] Date: 12.1.05

Legend:  
WG Water sample, glass bottle USG Undisturbed soil sample (glass jar) DSP Disturbed soil sample (small plastic bag) \* Purge & Trap @ mole H<sup>+</sup>/tonne  
WP Water sample, plastic bottle DSG Disturbed soil sample (glass jar) ✓ Test required # Geotechnique Screen

# GEOTECHNIQUE PTY LTD

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Lemko Place  
PENRITH NSW 2750  
P O Box 880  
PENRITH NSW 2751  
Tel: (02) 4722 2700  
Fax: (02) 4722 6161  
email: info@geotech.com.au

**TO:** SGS ENVIRONMENTAL SERVICES  
BOTANY TECHNICAL CENTRE  
ORICA INDUSTRIAL PARK, GATE 3, DENISON STREET  
MATRAVILLE NSW 2036

PH: 02 9666 1426 FAX: 02 9666 1364

ATTN: TANIA NOTARAS

Sampling Date: 7+10 Jan 2005 Job No: 2883/1  
Sampled By: DP Project:  
Project Manager: PG Location: Penrith

Page 2 of 10

Results required by: WEDNESDAY, 19 - 01 - 2005

| Location | Sampling details |           | Sample type | Depth (m) | Soil | Water | Heavy Metals<br>As, B, Cd, Cr, Cu, Pb<br>Hg, Ni, Se, Sn and Zn | OCP | PCB | TPH*<br>&<br>BTEX | PAH | KEEP<br>SAMPLE |
|----------|------------------|-----------|-------------|-----------|------|-------|----------------------------------------------------------------|-----|-----|-------------------|-----|----------------|
|          | Location         | Depth (m) |             |           |      |       |                                                                |     |     |                   |     |                |
| BH35     | 13               | 0-0.15    | USG         |           |      |       |                                                                |     |     |                   |     | YES            |
| BH36     | 14               | 0-0.15    | USG         |           |      |       |                                                                |     |     |                   |     | YES            |
| BH37     | 15               | 0-0.15    | USG         |           |      |       |                                                                |     |     |                   |     | YES            |
| BH37     | 16               | 0.35-0.5  | USG         |           |      |       |                                                                |     |     |                   |     | YES            |
| BH38     | 17               | 0-0.15    | USG         |           |      |       |                                                                |     |     |                   |     | YES            |
| BH39     | 18               | 0-0.15    | USG         |           |      |       |                                                                |     |     |                   |     | YES            |
| BH40     | 19               | 0-0.15    | USG         |           |      |       |                                                                |     |     |                   |     | YES            |
| BH41     | 20               | 0-0.15    | USG         |           |      |       |                                                                |     |     |                   |     | YES            |
| BH42     | 21               | 0-0.15    | USG         |           |      |       |                                                                |     |     |                   |     | YES            |
| BH43     | 22               | 0-0.15    | USG         |           |      |       |                                                                |     |     |                   |     | YES            |
| BH44     | 23               | 0-0.15    | USG         |           |      |       |                                                                |     |     |                   |     | YES            |
| BH45     | 24               | 0-0.15    | USG         |           |      |       |                                                                |     |     |                   |     | YES            |

Relinquished by

| Name        | Signature          | Date       | Name      | Signature        | Date    |
|-------------|--------------------|------------|-----------|------------------|---------|
| PAUL GORMAN | <i>Paul Gorman</i> | 12/01/2005 | W. Gorman | <i>W. Gorman</i> | 12.1.05 |

Legend:

|    |                              |     |                                     |     |                                           |                       |                              |
|----|------------------------------|-----|-------------------------------------|-----|-------------------------------------------|-----------------------|------------------------------|
| WG | Water sample, glass bottle   | USG | Undisturbed soil sample (glass jar) | DSP | Disturbed soil sample (small plastic bag) | * Purge & Trap        | @ mole H <sup>+</sup> /tonne |
| WP | Water sample, plastic bottle | DSG | Disturbed soil sample (glass jar)   | ✓   | Test required                             | # Geotechnique Screen |                              |

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Sampling Date: 7+10 Jan 2005 Job No: 2883/1  
Sampled By: DP Project:  
Project Manager: PG Location: Penrith

Page 3 of 10

Results required by: WEDNESDAY, 19 - 01 - 2005

| Location | Sampling details |  | Sample type |       | Heavy Metals<br>As, B, Cd, Cr, Cu, Pb<br>Hg, Ni, Se, Sn and Zn | OCP | PCB | TPH*<br>&<br>BTEX | PAH | KEEP<br>SAMPLE |
|----------|------------------|--|-------------|-------|----------------------------------------------------------------|-----|-----|-------------------|-----|----------------|
|          | Depth<br>(m)     |  | Soil        | Water |                                                                |     |     |                   |     |                |
| BH46 25  | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH47 26  | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH47 27  | 0.3-0.45         |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH48 28  | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH49 29  | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH50 30  | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH51 31  | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH51 32  | 0.3-0.45         |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH52 33  | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH53 34  | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH54 35  | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH54 36  | 0.3-0.45         |  | USG         |       |                                                                |     |     |                   |     | YES            |

|             |  |            |  |             |  |
|-------------|--|------------|--|-------------|--|
| Name        |  | Date       |  | Received by |  |
| PAUL GORMAN |  | 12/01/2005 |  | Signature   |  |
|             |  |            |  | Date        |  |
|             |  |            |  | 12.1.05     |  |

|    |                              |     |                                     |     |   |                                           |                       |                              |
|----|------------------------------|-----|-------------------------------------|-----|---|-------------------------------------------|-----------------------|------------------------------|
| WG | Water sample, glass bottle   | USG | Undisturbed soil sample (glass jar) | DSP | ✓ | Disturbed soil sample (small plastic bag) | * Purge & Trap        | @ mole H <sup>+</sup> /tonne |
| WP | Water sample, plastic bottle | DSG | Disturbed soil sample (glass jar)   |     |   | Test required                             | # Geotechnique Screen |                              |

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PENRITH NSW 2751  
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Page 4 of 10

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ORICA INDUSTRIAL PARK, GATE 3, DENISON STREET  
MATRAVILLE NSW 2036

PH: 02 9666 1426 FAX: 02 9666 1364

ATTN: TANIA NOTARAS

Sampling Date: 7+10 Jan 2005 Job No: 2883/1

Sampled By: DP Project:

Project Manager: PG Location: Penrith

Results required by: WEDNESDAY, 19 - 01 - 2005

| Location | Sampling details |       | Depth<br>(m) | Sample type |  | Heavy Metals<br>As, B, Cd, Cr, Cu, Pb<br>Hg, Ni, Se, Sn and Zn | OCP | PCB | TPH*<br>&<br>BTEX | PAH | KEEP<br>SAMPLE |
|----------|------------------|-------|--------------|-------------|--|----------------------------------------------------------------|-----|-----|-------------------|-----|----------------|
|          | Soil             | Water |              |             |  |                                                                |     |     |                   |     |                |
| BH55     | USG              |       | 0-0.15       | USG         |  |                                                                |     |     |                   |     | YES            |
| BH55     | USG              |       | 0.3-0.45     | USG         |  |                                                                |     |     |                   |     | YES            |
| BH56     | USG              |       | 0-0.15       | USG         |  |                                                                |     |     |                   |     | YES            |
| BH56     | USG              |       | 0.3-0.45     | USG         |  |                                                                |     |     |                   |     | YES            |
| BH57     | USG              |       | 0-0.15       | USG         |  |                                                                |     |     |                   |     | YES            |
| BH58     | USG              |       | 0-0.15       | USG         |  |                                                                |     |     |                   |     | YES            |
| BH59     | USG              |       | 0-0.15       | USG         |  |                                                                |     |     |                   |     | YES            |
| BH59     | USG              |       | 0.3-0.45     | USG         |  |                                                                |     |     |                   |     | YES            |
| BH60     | USG              |       | 0-0.15       | USG         |  |                                                                |     |     |                   |     | YES            |
| BH61     | USG              |       | 0-0.15       | USG         |  |                                                                |     |     |                   |     | YES            |
| BH62     | USG              |       | 0-0.15       | USG         |  |                                                                |     |     |                   |     | YES            |
| BH62     | USG              |       | 0.3-0.45     | USG         |  |                                                                |     |     |                   |     | YES            |

Relinquished by: Name: PAUL GORMAN Signature: [Signature] Date: 12/01/2005

Received by: Name: [Signature] Signature: [Signature] Date: 12.1.05

Legend:

WG Water sample, glass bottle USG Undisturbed soil sample (glass jar) DSP Disturbed soil sample (small plastic bag) \* Purge & Trap @ mole H<sup>+</sup>/tonne

WP Water sample, plastic bottle DSG Disturbed soil sample (glass jar) ✓ Test required # Geotechnique Screen

# GEOTECHNIQUE PTY LTD

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Lenko Place  
PENRITH NSW 2750 P O Box 880  
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ATTN: TANIA NOTARAS

Page 5 of 10

Sampling Date: 7+10 Jan 2005 Job No: 2883/1

Sampled By: DP Project:

Project Manager: PG Location: Penrith

Results required by: WEDNESDAY, 19 - 01 - 2005

| Location | Sampling details |  | Sample type |       | Heavy Metals<br>As, B, Cd, Cr, Cu, Pb<br>Hg, Ni, Se, Sn and Zn | OCP | PCB | TPH*<br>&<br>BTEX | PAH | KEEP<br>SAMPLE |
|----------|------------------|--|-------------|-------|----------------------------------------------------------------|-----|-----|-------------------|-----|----------------|
|          | Depth<br>(m)     |  | Soil        | Water |                                                                |     |     |                   |     |                |
| BH63     | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH64     | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH65     | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH66     | 0.3-0.45         |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH67     | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH67     | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH67     | 0.25-0.4         |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH68     | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH69     | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH70     | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH71     | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |
| BH72     | 0-0.15           |  | USG         |       |                                                                |     |     |                   |     | YES            |

Relinquished by

| Name        | Signature          | Date       | Name      | Signature        | Date    |
|-------------|--------------------|------------|-----------|------------------|---------|
| PAUL GORMAN | <i>Paul Gorman</i> | 12/01/2005 | M. GORMAN | <i>M. Gorman</i> | 12.1.05 |

Legend:

|    |                              |     |                                     |     |   |                                           |                       |                              |
|----|------------------------------|-----|-------------------------------------|-----|---|-------------------------------------------|-----------------------|------------------------------|
| WG | Water sample, glass bottle   | USG | Undisturbed soil sample (glass jar) | DSP | ✓ | Disturbed soil sample (small plastic bag) | * Purge & Trap        | @ mole H <sup>+</sup> /tonne |
| WP | Water sample, plastic bottle | DSG | Disturbed soil sample (glass jar)   |     |   | Test required                             | # Geotechnique Screen |                              |

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PH: 02 9666 1426 FAX: 02 9666 1364

ATTN: TANIA NOTARAS

Sampling Date: 7+10 Jan 2005 Job No: 2883/1  
Sampled By: DP Project:  
Project Manager: PG Location: Penrith

Page 6 of 10

Results required by: WEDNESDAY, 19 - 01 - 2005

| Sampling details |              | Sample type |       | Heavy Metals<br>As, B, Cd, Cr, Cu, Pb<br>Hg, Ni, Se, Sn and Zn |  |  |  |  |  |  | TPH*<br>&<br>BTEX |  | PAH |  | OCP |  | PCB |  | KEEP<br>SAMPLE |  |
|------------------|--------------|-------------|-------|----------------------------------------------------------------|--|--|--|--|--|--|-------------------|--|-----|--|-----|--|-----|--|----------------|--|
| Location         | Depth<br>(m) | Soil        | Water |                                                                |  |  |  |  |  |  |                   |  |     |  |     |  |     |  |                |  |
| BH72             | 0.3-0.45     | USG         |       |                                                                |  |  |  |  |  |  |                   |  |     |  |     |  |     |  | YES            |  |
| BH73             | 0-0.15       | USG         |       |                                                                |  |  |  |  |  |  |                   |  |     |  |     |  |     |  | YES            |  |
| BH74             | 0-0.15       | USG         |       |                                                                |  |  |  |  |  |  |                   |  |     |  |     |  |     |  | YES            |  |
| BH74             | 0.25-0.4     | USG         |       |                                                                |  |  |  |  |  |  |                   |  |     |  |     |  |     |  | YES            |  |
| BH75             | 0-0.15       | USG         |       |                                                                |  |  |  |  |  |  |                   |  |     |  |     |  |     |  | YES            |  |
| BH76             | 0-0.15       | USG         |       |                                                                |  |  |  |  |  |  |                   |  |     |  |     |  |     |  | YES            |  |
| BH76             | 0.3-0.45     | USG         |       |                                                                |  |  |  |  |  |  |                   |  |     |  |     |  |     |  | YES            |  |
| BH77             | 0-0.15       | USG         |       |                                                                |  |  |  |  |  |  |                   |  |     |  |     |  |     |  | YES            |  |
| BH78             | 0-0.15       | USG         |       |                                                                |  |  |  |  |  |  |                   |  |     |  |     |  |     |  | YES            |  |
| BH78             | 0.3-0.45     | USG         |       |                                                                |  |  |  |  |  |  |                   |  |     |  |     |  |     |  | YES            |  |
| BH79             | 0-0.15       | USG         |       |                                                                |  |  |  |  |  |  |                   |  |     |  |     |  |     |  | YES            |  |
| BH80             | 0-0.15       | USG         |       |                                                                |  |  |  |  |  |  |                   |  |     |  |     |  |     |  | YES            |  |

Relinquished by

Name: PAUL GORMAN Signature: *P. Gorman* Date: 12/01/2005

Received by

Name: W. Gorman Signature: *W. Gorman* Date: 12.1.05

Legend:

WG Water sample, glass bottle USG Undisturbed soil sample (glass jar) DSP Disturbed soil sample (small plastic bag) \* Purge & Trap @ mole H<sup>+</sup>/tonne  
WP Water sample, plastic bottle DSG Disturbed soil sample (glass jar) ✓ Test required # Geotechnique Screen

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record

Lemko Place  
PENRITH NSW 2750 P O Box 880  
PENRITH NSW 2751  
Tel: (02) 4722 2700  
Fax: (02) 4722 6161  
email: info@geotech.com.au

TO: SGS ENVIRONMENTAL SERVICES

BOTANY TECHNICAL CENTRE  
ORICA INDUSTRIAL PARK, GATE 3, DENISON STREET  
MATRAVILLE NSW 2036

PH: 02 9666 1426 FAX: 02 9666 1364

ATTN: TANIA NOTARAS

Page 7 of 10  
Sampling Date: 7+10 Jan 2005 Job No: 2883/1

Sampled By: DP Project:

Project Manager: PG Location: Penrith

Results required by: WEDNESDAY, 19 - 01 - 2005

| Sampling details |              | Sample type |       | Heavy Metals<br>As, Cd, Cr, Cu, Pb<br>Hg, Ni, and Zn | OCP | PCB | TPH*<br>&<br>BTEX | PAH | BTEX | KEEP<br>SAMPLE |
|------------------|--------------|-------------|-------|------------------------------------------------------|-----|-----|-------------------|-----|------|----------------|
| Location         | Depth<br>(m) | Soil        | Water |                                                      |     |     |                   |     |      |                |
| BH80             | 0.25-0.4     | USG         |       |                                                      |     |     |                   |     |      | YES            |
| Duplicate DS3    |              | USG         |       |                                                      |     |     |                   |     |      | YES            |
| X1               |              | USG         |       |                                                      |     |     |                   |     |      | YES            |
| X2               |              | USG         |       |                                                      |     |     |                   |     |      | YES            |
| X3               |              | USG         |       |                                                      |     |     |                   |     |      | YES            |
| X4               |              | USG         |       |                                                      |     |     |                   |     |      | YES            |
| X5               |              | USG         |       |                                                      |     |     |                   |     |      | YES            |
| X6               |              | USG         |       |                                                      |     |     |                   |     |      | YES            |
| Rinsate R3       |              |             | WG    |                                                      |     |     |                   |     |      | YES            |
| Rinsate R4       |              |             | WG    |                                                      |     |     |                   |     |      | YES            |
| Trip Spike TS3   |              |             |       |                                                      |     |     |                   |     |      | YES            |
| Trip Spike TS4   |              |             |       |                                                      |     |     |                   |     |      | YES            |

Relinquished by

Signature

Name

Date

Name

Signature

Received by

Date

Legend:

WG

Water sample, glass bottle

USG

Undisturbed soil sample (glass jar)

DSP

Disturbed soil sample (small plastic bag)

\* Purge & Trap

@ mole H<sup>+</sup>/tonne

WP

Water sample, plastic bottle

DSG

Disturbed soil sample (glass jar)

✓

Test required

# Geotechnique Screen

# GEOTECHNIQUE PTY LTD

Lemko Place  
PENRITH NSW 2750 P O Box 880  
PENRITH NSW 2751  
Tel: (02) 4722 2700  
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TO: SGS ENVIRONMENTAL SERVICES

BOTANY TECHNICAL CENTRE  
ORICA INDUSTRIAL PARK, GATE 3, DENISON STREET  
MATRAVILLE NSW 2036

PH: 02 9666 1426 FAX: 02 9666 1364

ATTN: TANIA NOTARAS

## Laboratory Test Request / Chain of Custody Record

Page 8 of 10

Sampling Date: 7+10 Jan 2005 Job No: 2883/1

Sampled By: DP Project:

Project Manager: PG Location: Penrith

Results required by: WEDNESDAY, 19 - 01 - 2005

| Sampling details |           |             |       | Results required by: WEDNESDAY, 19 - 01 - 2005       |     |     |                   |     |  |  |  |                |
|------------------|-----------|-------------|-------|------------------------------------------------------|-----|-----|-------------------|-----|--|--|--|----------------|
| Location         | Depth (m) | Sample type |       | Heavy Metals<br>As, Cd, Cr, Cu, Pb<br>Hg, Ni, and Zn | OCP | PCB | TPH*<br>&<br>BTEX | PAH |  |  |  | KEEP<br>SAMPLE |
|                  |           | Soil        | Water |                                                      |     |     |                   |     |  |  |  |                |
| Duplicate DS4    |           |             |       | ✓                                                    | ✓   |     |                   |     |  |  |  | YES            |
| Duplicate DS5    |           |             |       | ✓                                                    | ✓   |     |                   |     |  |  |  | YES            |
| Composite A      |           |             |       | ✓                                                    | ✓   |     |                   |     |  |  |  | YES            |
| Composite B      |           |             |       | ✓                                                    | ✓   |     |                   |     |  |  |  | YES            |
| Composite C      |           |             |       | ✓                                                    | ✓   |     |                   |     |  |  |  | YES            |
| Composite D      |           |             |       | ✓                                                    | ✓   |     |                   |     |  |  |  | YES            |
| Composite E      |           |             |       | ✓                                                    | ✓   |     |                   |     |  |  |  | YES            |
| Composite F      |           |             |       | ✓                                                    | ✓   |     |                   |     |  |  |  | YES            |
| Composite G      |           |             |       | ✓                                                    | ✓   |     |                   |     |  |  |  | YES            |
| Composite H      |           |             |       | ✓                                                    | ✓   |     |                   |     |  |  |  | YES            |
| Composite I      |           |             |       | ✓                                                    | ✓   |     |                   |     |  |  |  | YES            |
| Composite J      |           |             |       | ✓                                                    | ✓   |     |                   |     |  |  |  | YES            |

Relinquished by

Name: PAUL GORMAN Signature: *Paul Gorman* Date: 12/01/2005

Received by

Name: *W. GORMAN* Signature: *W. Gorman* Date: 12-1-05

Legend:

WG Water sample, glass bottle  
WP Water sample, plastic bottle

USG Undisturbed soil sample (glass jar)  
DSG Disturbed soil sample (glass jar)

DSP Disturbed soil sample (small plastic bag)  
✓ Test required

\* Purge & Trap  
# Geotechnique Screen  
@ mole H<sup>+</sup>/tonne

## Laboratory Test Request / Chain of Custody Record

Tel: (02) 4722 2700  
Fax: (02) 4722 6161  
email: [info@geotech](mailto:info@geotech)

PENRITH NSW 2751

SGS ENVIRONMENTAL SERVICES  
BOTANY TECHNICAL CENTRE  
ORICA INDUSTRIAL PARK, GATE 3, DENISON STREET  
MATRAVILLE NSW 2036

**FAX: 02 9666 1364**

TANIA NOTARAS

2883/1

**Project:**

**Location:** Penrith

**Results required by: WEDNESDAY, 19 - 01 - 2005**

[illegible]

Relinquished by

Signature \_\_\_\_\_

Date \_\_\_\_\_

Name \_\_\_\_\_

|    |  |
|----|--|
| Re |  |
| Ci |  |

Received by

1

Legend:

WG

Water sample, glass bottle

USG Undist

USG Undisturbed soil sample (glass jar)

ds

Disturbed soil sample (small plastic bag)

\* Purge &amp; Trap

\* Purge & Trap  
# Geotechnique Screen

mole  $H^+$ /tonne

Sampling Date: 7+10/1/05  
 Sampled by: DP  
 Project Manager: PG  
 Results Required by: 19 January 2005

Job No: 2883/1

Location: Penrith

Page 10 of 10

|     | Composite Sample | Sub-Samples                                |              |
|-----|------------------|--------------------------------------------|--------------|
| 87  | Composite A      | BH26(0-0.15) + BH27(0-0.15) + BH28(0-0.15) | 3 + 4 + 5    |
| 88  | Composite B      | BH29(0-0.15) + BH30(0-0.15) + BH32(0-0.15) | 6 + 7 + 10   |
| 89  | Composite C      | BH33(0-0.15) + BH34(0-0.15) + BH35(0-0.15) | 11 + 12 + 13 |
| 90  | Composite D      | BH36(0-0.15) + BH37(0-0.15) + BH38(0-0.15) | 14 + 15 + 17 |
| 91  | Composite E      | BH39(0-0.15) + BH40(0-0.15) + BH41(0-0.15) | 18 + 19 + 20 |
| 92  | Composite F      | BH43(0-0.15) + BH44(0-0.15) + BH45(0-0.15) | 22 + 23 + 24 |
| 93  | Composite G      | BH46(0-0.15) + BH47(0-0.15) + BH55(0-0.15) | 25 + 26 + 37 |
| 94  | Composite H      | BH48(0-0.15) + BH63(0-0.15) + BH64(0-0.15) | 28 + 49 + 50 |
| 95  | Composite I      | BH49(0-0.15) + BH50(0-0.15) + BH51(0-0.15) | 29 + 30 + 31 |
| 96  | Composite J      | BH42(0-0.15) + BH54(0-0.15) + BH57(0-0.15) | 21 + 35 + 41 |
| 97  | Composite K      | BH52(0-0.15) + BH53(0-0.15) + BH58(0-0.15) | 33 + 34 + 42 |
| 98  | Composite L      | BH59(0-0.15) + BH60(0-0.15) + BH61(0-0.15) | 43 + 45 + 46 |
| 99  | Composite M      | BH62(0-0.15) + BH65(0-0.15) + BH66(0-0.15) | 47 + 51 + 53 |
| 100 | Composite N      | BH67(0-0.15) + BH68(0-0.15) + BH69(0-0.15) | 54 + 56 + 57 |
| 101 | Composite O      | BH70(0-0.15) + BH71(0-0.15) + BH72(0-0.15) | 58 + 59 + 60 |
| 102 | Composite P      | BH73(0-0.15) + BH74(0-0.15) + BH75(0-0.15) | 62 + 63 + 65 |
| 103 | Composite Q      | BH56(0-0.15) + BH76(0-0.15) + BH77(0-0.15) | 39 + 66 + 68 |
| 104 | Composite R      | BH78(0-0.15) + BH79(0-0.15) + BH80(0-0.15) | 69 + 71 + 72 |
| 85  | Duplicate DS4    | X1 + X2 + X3                               | 75 + 76 + 77 |
| 86  | Duplicate DS5    | X4 + X5 + X6                               | 78 + 79 + 80 |



SGS Environmental Services  
Botany Industrial Park  
Gate 3, Denison St, Matraville NSW 2036  
Telephone Number : (61 2) 9666 1426  
Fax Number : (61 2) 9666 1364

### **SAMPLE RECEIPT CONFIRMATION**

|           |   |              |         |   |              |
|-----------|---|--------------|---------|---|--------------|
| COMPANY   | : | Geotechnique | FAX NO. | : | 02 4722 6161 |
| ATTENTION | : | Paul Gorman  | PAGES   | : | 1            |
| FROM      | : | Aileen Hie   | DATE    | : | 12/01/05     |

This is to confirm that samples for Project **2883/1, Penrith** were received on **11/01/05** the results are expected to be ready on **19/01/05**. Please quote SGS Reference: **34227** when making enquiries regarding this project. Please refer to below which details information about the integrity of the samples and other useful information.

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples, unless otherwise instructed.

|                                         |          |
|-----------------------------------------|----------|
| Samples received in good order:         | YES      |
| Samples received in correct containers: | YES      |
| Samples received without headspace:     | YES      |
| Sufficient quantity supplied:           | YES      |
| Upon receipt sample temperature:        | Cool     |
| Cooling Method:                         | Ice Pack |
| Sample containers provided by:          | SGS      |
| Samples Clearly Labelled:               | YES      |
| Turnaround time requested:              | Standard |
| Completed documentation received:       | YES      |

Comments:

***The signed chain of custody will be returned to you with the original report.***

The contents of this facsimile (including attachments) are privileged and confidential. Any unauthorised use of the contents is expressly prohibited. If you have received the document in error, please advise by telephone (reverse charges) immediately then shred the document. Thank you.



18 March 2005

## TEST REPORT

### Geotechnique

P.O. Box 880  
PENRITH  
NSW 2751

Your Reference: 2883/1, Penrith  
Report Number: 35495

Attention: Paul Gorman

Dear Paul

The following samples were received from you on the date indicated.

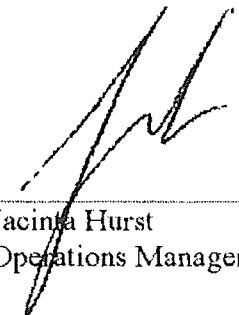
|                                  |                 |          |
|----------------------------------|-----------------|----------|
| Samples:                         | Qty.            | 3 Waters |
| Date of Receipt of Samples:      | 01/03/05@5:30pm |          |
| Date of Receipt of Instructions: | 01/03/05        |          |
| Date Preliminary Report Faxed:   | Not Issued      |          |

These samples were analysed in accordance with your written instructions.  
A copy of the instructions is attached with the analytical report.

The results and associated quality control are contained in the following pages of this report.  
Unless otherwise stated, solid samples are expressed on a dry weight basis (moisture has been supplied for your information only), air and liquid samples as received.

Should you have any queries regarding this report please contact the undersigned.

Yours faithfully  
SGS ENVIRONMENTAL SERVICES

  
Jacinta Hurst  
Operations Manager

Page 1 of 16



NATA Endorsed Test Report

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NATA Accredited Laboratory No 2562

SGS Australia Pty Ltd  
ABN 44 000 964 278

Environmental Services Botany Industrial Park Gate 3, Denison Street, Matraville 2036 NSW Australia  
t +61 (0)2 9666 1426 f +61 (0)2 9666 1364 url www.sgs.com

seen 31/3/05  
☺

| VOC's in water<br>Our Reference:<br>Your Reference<br>Sample Type | UNITS<br>-----<br>----- | 35495-1<br>GW1<br>water | 35495-2<br>GW2<br>water | 35495-3<br>GW3<br>water |
|-------------------------------------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Dichlorodifluoromethane                                           | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Chloromethane                                                     | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Vinyl Chloride                                                    | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Bromomethane                                                      | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Chloroethane                                                      | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Trichlorofluoromethane                                            | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,1-Dichloroethene                                                | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| <i>trans</i> -1,2-Dichloroethene                                  | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,1-Dichloroethane                                                | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| <i>cis</i> -1,2-Dichloroethene                                    | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Bromochloromethane                                                | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Chloroform                                                        | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 2,2-Dichloropropane                                               | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,2-Dichloroethane                                                | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,1,1-Trichloroethane                                             | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,1-Dichloropropene                                               | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Carbon tetrachloride                                              | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Benzene                                                           | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Dibromomethane                                                    | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,2-Dichloropropane                                               | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Trichloroethene                                                   | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Bromodichloromethane                                              | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| <i>trans</i> -1,3-Dichloropropene                                 | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| <i>cis</i> -1,3-Dichloropropene                                   | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,1,2-Trichloroethane                                             | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Toluene                                                           | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,3-Dichloropropane                                               | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Dibromochloromethane                                              | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,2-Dibromoethane                                                 | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Tetrachloroethene                                                 | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,1,1,2-Tetrachloroethane                                         | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Chlorobenzene                                                     | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Ethyl benzene                                                     | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Bromoform                                                         | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| <i>m/p</i> -Xylenes                                               | µg/L                    | <10                     | <10                     | <10                     |
| Styrene                                                           | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,1,2,2-Tetrachloroethane                                         | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| <i>o</i> -Xylene                                                  | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,2,3-Trichloropropane                                            | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Isopropylbenzene                                                  | µg/L                    | <5.0                    | <5.0                    | <5.0                    |

| VOC's in water<br>Our Reference:<br>Your Reference<br>Sample Type | UNITS<br>-----<br>----- | 35495-1<br>GW1<br>water | 35495-2<br>GW2<br>water | 35495-3<br>GW3<br>water |
|-------------------------------------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Bromobenzene                                                      | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| n-Propylbenzene                                                   | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 2-Chlorotoluene                                                   | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 4-Chlorotoluene                                                   | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,3,5-Trimethylbenzene                                            | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| <i>tert</i> -Butylbenzene                                         | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,2,4-Trimethylbenzene                                            | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,3-Dichlorobenzene                                               | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| <i>sec</i> -Butylbenzene                                          | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,4-Dichlorobenzene                                               | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| <i>p</i> -Isopropyltoluene                                        | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,2-Dichlorobenzene                                               | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| n-Butylbenzene                                                    | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,2-Dibromo-3-chloropropane                                       | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,2,4-Trichlorobenzene                                            | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Naphthalene                                                       | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Hexachlorobutadiene                                               | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| 1,2,3-Trichlorobenzene                                            | µg/L                    | <5.0                    | <5.0                    | <5.0                    |
| Surrogate                                                         | % Recovery              | 86                      | 89                      | 84                      |
| Toluene- <i>d</i> 8 Surrogate 2                                   | % recovery              | 92                      | 90                      | 92                      |
| 4-Bromofluorobenzene Surrogate 3                                  | % recovery              | 62                      | 66                      | 62                      |



NATA Endorsed Test Report

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NATA Accredited Laboratory No. 2902

| Tot Recoverable Hydrocarbons in Water<br>Our Reference:<br>Your Reference<br>Sample Type | UNITS | 35495-1 | 35495-2 | 35495-3 |
|------------------------------------------------------------------------------------------|-------|---------|---------|---------|
|                                                                                          |       | GW1     | GW2     | GW3     |
|                                                                                          |       | water   | water   | water   |
|                                                                                          |       |         |         |         |
| TRH C6 - C9 P&T                                                                          | mg/L  | <0.040  | <0.040  | <0.040  |
| TRH C10 - C14                                                                            | mg/L  | 2.1     | <0.10   | 0.80    |
| TRH C15 - C28                                                                            | mg/L  | 0.30    | <0.20   | <0.20   |
| TRH C29 - C40                                                                            | mg/L  | <0.20   | <0.20   | <0.20   |

| PAHs in Water<br>Our Reference:<br>Your Reference<br>Sample Type | UNITS<br>-----<br>----- | 35495-1<br>GW1<br>water | 35495-2<br>GW2<br>water | 35495-3<br>GW3<br>water |
|------------------------------------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Naphthalene                                                      | µg/L                    | 2                       | 2                       | 0.9                     |
| Acenaphthylene                                                   | µg/L                    | <0.5                    | <0.5                    | <0.5                    |
| Acenaphthene                                                     | µg/L                    | <0.5                    | <0.5                    | <0.5                    |
| Fluorene                                                         | µg/L                    | <0.5                    | <0.5                    | <0.5                    |
| Phenanthrene                                                     | µg/L                    | <0.5                    | <0.5                    | <0.5                    |
| Anthracene                                                       | µg/L                    | <0.5                    | <0.5                    | <0.5                    |
| Fluoranthene                                                     | µg/L                    | <0.5                    | <0.5                    | <0.5                    |
| Pyrene                                                           | µg/L                    | <0.5                    | <0.5                    | <0.5                    |
| Benzo[a]anthracene                                               | µg/L                    | <0.5                    | <0.5                    | <0.5                    |
| Chrysene                                                         | µg/L                    | <0.5                    | <0.5                    | <0.5                    |
| Benzo[b,k]fluoranthene                                           | µg/L                    | <1                      | <1                      | <1                      |
| Benzo[a]pyrene                                                   | µg/L                    | <0.5                    | <0.5                    | <0.5                    |
| Indeno[123-cd]pyrene                                             | µg/L                    | <0.5                    | <0.5                    | <0.5                    |
| Dibenzo[ah]anthracene                                            | µg/L                    | <0.5                    | <0.5                    | <0.5                    |
| Benzo[ghi]perylene                                               | µg/L                    | <0.5                    | <0.5                    | <0.5                    |
| Surrogate                                                        | %                       | 83                      | 105                     | 98                      |



| OC Pesticides in Water<br>Our Reference:<br>Your Reference<br>Sample Type | UNITS<br>-----<br>----- | 35495-1<br>GW1<br>water | 35495-2<br>GW2<br>water | 35495-3<br>GW3<br>water |
|---------------------------------------------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| HCB                                                                       | µg/L                    | <0.2                    | <0.2                    | <0.2                    |
| BHC (other than g-BHC)                                                    | µg/L                    | <0.6                    | <0.6                    | <0.6                    |
| <i>gamma</i> -BHC(lindane)                                                | µg/L                    | <0.2                    | <0.2                    | <0.2                    |
| Heptachlor                                                                | µg/L                    | <0.2                    | <0.2                    | <0.2                    |
| Aldrin                                                                    | µg/L                    | <0.2                    | <0.2                    | <0.2                    |
| Heptachlor Epoxide                                                        | µg/L                    | <0.2                    | <0.2                    | <0.2                    |
| DDE                                                                       | µg/L                    | <0.4                    | <0.4                    | <0.4                    |
| Endosulfan                                                                | µg/L                    | <0.4                    | <0.4                    | <0.4                    |
| Chlordane <i>cis</i> & <i>trans</i>                                       | µg/L                    | <0.4                    | <0.4                    | <0.4                    |
| <i>trans</i> -Nonachlor                                                   | µg/L                    | <0.2                    | <0.2                    | <0.2                    |
| Dieldrin                                                                  | µg/L                    | <0.2                    | <0.2                    | <0.2                    |
| Endrin                                                                    | µg/L                    | <0.2                    | <0.2                    | <0.2                    |
| DDD                                                                       | µg/L                    | <0.4                    | <0.4                    | <0.4                    |
| DDT                                                                       | µg/L                    | <0.4                    | <0.4                    | <0.4                    |
| Endosulfan Sulphate                                                       | µg/L                    | <0.2                    | <0.2                    | <0.2                    |
| Endrin Aldehyde                                                           | µg/L                    | <0.2                    | <0.2                    | <0.2                    |
| Methoxychlor                                                              | µg/L                    | <0.2                    | <0.2                    | <0.2                    |
| Endrin Ketone                                                             | µg/L                    | <0.2                    | <0.2                    | <0.2                    |
| Surrogate                                                                 | %                       | 80                      | 95                      | 87                      |

| PCBs in Water<br>Our Reference:<br>Your Reference<br>Sample Type | UNITS | 35495-1<br>GW1<br>water | 35495-2<br>GW2<br>water | 35495-3<br>GW3<br>water |
|------------------------------------------------------------------|-------|-------------------------|-------------------------|-------------------------|
| Arochlor 1016                                                    | µg/L  | <0.1                    | <0.1                    | <0.1                    |
| Arochlor 1221                                                    | µg/L  | <0.1                    | <0.1                    | <0.1                    |
| Arochlor 1232                                                    | µg/L  | <0.1                    | <0.1                    | <0.1                    |
| Arochlor 1242                                                    | µg/L  | <0.1                    | <0.1                    | <0.1                    |
| Arochlor 1248                                                    | µg/L  | <0.1                    | <0.1                    | <0.1                    |
| Arochlor 1254                                                    | µg/L  | <0.1                    | <0.1                    | <0.1                    |
| Arochlor 1260                                                    | µg/L  | <0.1                    | <0.1                    | <0.1                    |
| Arochlor 1262                                                    | µg/L  | <0.1                    | <0.1                    | <0.1                    |
| Arochlor 1268                                                    | µg/L  | <0.1                    | <0.1                    | <0.1                    |
| Surrogate                                                        | %     | 80                      | 95                      | 87                      |



| Inorganics<br>Our Reference:<br>Your Reference<br>Sample Type | UNITS<br>-----<br>----- | 35495-1<br>GW1<br>water | 35495-2<br>GW2<br>water | 35495-3<br>GW3<br>water |
|---------------------------------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Hexavalent Chromium, Cr <sup>6+</sup>                         | mg/L                    | <0.050                  | <0.050                  | <0.050                  |
| Fluoride, F                                                   | mg/L                    | <0.080                  | <0.16                   | <0.16                   |
| Alkyl Mercury                                                 | mg/L                    | 1.0                     | <1                      | <1                      |

| Metals in water Dissolved | UNITS | 35495-1 | 35495-2 | 35495-3 |
|---------------------------|-------|---------|---------|---------|
| Our Reference             | ----- | GW1     | GW2     | GW3     |
| Your Reference            | ----- | water   | water   | water   |
| Sample Type               | ----- |         |         |         |
| Arsenic                   | mg/L  | <0.050  | <0.050  | <0.050  |
| Cadmium                   | mg/L  | <0.006  | <0.006  | <0.006  |
| Chromium                  | mg/L  | <0.005  | <0.005  | <0.005  |
| Copper                    | mg/L  | <0.01   | <0.01   | 0.01    |
| Lead                      | mg/L  | <0.04   | <0.04   | <0.04   |
| Mercury                   | mg/L  | <0.0005 | <0.0005 | <0.0005 |
| Nickel                    | mg/L  | 0.02    | 0.04    | 0.02    |
| Zinc                      | mg/L  | 0.02    | 0.091   | 0.008   |



| Method ID | Methodology Summary                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SEO-019   | VOCs by P&T GC/MS- Determination of Volatile Organic Compounds by Purge and Trap then Gas Chromatography / Mass spectrometry following extraction with methanol for soils. Waters are introduced directly on the purge and trap.                                                                                                                                                         |
| SEO-017   | BTEX/TRH C6-C9 - Determination by Purge and Trap Gas Chromatography with Flame Ionisation Detection (FID) and Photo Ionisation Detection (PID). The surrogate spike used is aaa-trifluorotoluene.                                                                                                                                                                                        |
| SEO-020   | TRH - Determination of Total Recoverable Hydrocarbons by gas chromatography following extraction with DCM/Acetone for solids and DCM for liquids.                                                                                                                                                                                                                                        |
| SEO-030   | PAHs by GC/MS - Determination of Polynuclear Aromatic Hydrocarbons (PAH's) by Gas Chromatography / Mass Spectrometry following extraction with dichloromethane or dichloromethane/acetone. The surrogate spike used is p-Terphenyl-d14.                                                                                                                                                  |
| SEO-005   | OC/OP/PCB - Determination of a suite of Organchlorine Pesticides, Chlorinated Organo-phosphorus Pesticides and Polychlorinated Biphenyls (PCB's) by sonication extraction using dichloromethane for waters or acetone / hexane for soils followed by Gas Chromatographic separation with Electron Capture Detection (GC /ECD). The surrogate spike used is 2,4,5,6-Tetrachloro-m-xylene. |
| SEI-042   | Hexavalent Chromium (Cr6+) - determined colourimetrically. Soils are extracted with warm water first, in accordance with APHA 20th ED, 3500-Cr-C.                                                                                                                                                                                                                                        |
| SEI-038   | Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA 20th ED, 4110 -B.                                                                                                                                                                                                                                                                               |
| Ext-022   | Subcontracted to Ansto.                                                                                                                                                                                                                                                                                                                                                                  |
| SEM-010   | Metals - Determination of various metals by ICP-AES following aqua regia digest.                                                                                                                                                                                                                                                                                                         |
| SEM-005   | Mercury - Determination of Mercury by Cold Vapour Generation Atomic Absorption Spectroscopy.                                                                                                                                                                                                                                                                                             |

| QUALITY CONTROL           | UNITS | PQL | METHOD  | Blank | Duplicate Sm# | Duplicate<br>Base + Duplicate +<br>%RPD | Spike Sm# | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
|---------------------------|-------|-----|---------|-------|---------------|-----------------------------------------|-----------|------------------------------------------------|
| VOC's in water            |       |     |         |       |               |                                         |           |                                                |
| Dichlorodifluoromethane   | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Chloromethane             | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Vinyl Chloride            | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Bromomethane              | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Chloroethane              | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Trichlorofluoromethane    | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,1-Dichloroethene        | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| trans-1,2-Dichloroethene  | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,1-Dichloroethane        | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| cis-1,2-Dichloroethene    | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Bromochloromethane        | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Chloroform                | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | 103    [N/T]                                   |
| 2,2-Dichloropropane       | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,2-Dichloroethane        | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | 103    [N/T]                                   |
| 1,1,1-Trichloroethane     | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,1-Dichloropropene       | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Carbon tetrachloride      | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Benzene                   | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | 119    [N/T]                                   |
| Dibromomethane            | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,2-Dichloropropane       | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Trichloroethene           | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | 75    [N/T]                                    |
| Bromodichloromethane      | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| trans-1,3-Dichloropropene | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| cis-1,3-Dichloropropene   | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,1,2-Trichloroethane     | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Toluene                   | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | 89    [N/T]                                    |
| 1,3-Dichloropropane       | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Dibromochloromethane      | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,2-Dibromoethane         | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Tetrachloroethene         | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,1,1,2-Tetrachloroethane | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Chlorobenzene             | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | 113    [N/T]                                   |
| Ethyl benzene             | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | 86    [N/T]                                    |
| Bromoform                 | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| m,p-Xylenes               | µg/L  | 10  | SEO-019 | <10   | [NT]          | [NT]                                    | Batch     | 106    [N/T]                                   |
| Styrene                   | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,1,2,2-Tetrachloroethane | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| o-Xylene                  | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | 95    [N/T]                                    |
| 1,2,3-Trichloropropane    | µg/L  | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |



| QUALITY CONTROL                     | UNITS         | PQL | METHOD  | Blank | Duplicate Sm# | Duplicate<br>Base + Duplicate<br>+ %RPD | Spike Sm# | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
|-------------------------------------|---------------|-----|---------|-------|---------------|-----------------------------------------|-----------|------------------------------------------------|
| VOC's in water                      |               |     |         |       |               |                                         |           |                                                |
| Isopropylbenzene                    | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Bromobenzene                        | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| n-Propylbenzene                     | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 2-Chlorotoluene                     | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 4-Chlorotoluene                     | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,3,5-Trimethylbenzene              | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| tert-Butylbenzene                   | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,2,4-Trimethylbenzene              | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,3-Dichlorobenzene                 | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| sec-Butylbenzene                    | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,4-Dichlorobenzene                 | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| p-Isopropyltoluene                  | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,2-Dichlorobenzene                 | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| n-Butylbenzene                      | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,2-Dibromo-3-chloropropane         | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,2,4-Trichlorobenzene              | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Naphthalene                         | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Hexachlorobutadiene                 | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| 1,2,3-Trichlorobenzene              | µg/L          | 5   | SEO-019 | <5.0  | [NT]          | [NT]                                    | Batch     | [NT]                                           |
| Surrogate                           | %<br>Recovery |     | SEO-019 | [NT]  | [NT]          | [NT]                                    | Batch     | 108    [N/T]                                   |
| Toluene-d8 Surrogate 2              | %<br>recovery |     | SEO-019 | [NT]  | [NT]          | [NT]                                    | Batch     | 77    [N/T]                                    |
| 4-Bromofluorobenzene<br>Surrogate 3 | %<br>recovery |     | SEO-019 | [NT]  | [NT]          | [NT]                                    | Batch     | 84    [N/T]                                    |



| QUALITY CONTROL                              | UNITS | PQL  | METHOD  | Blank  | Duplicate Sm# | Duplicate<br>Base + Duplicate<br>+ %RPD | Spike<br>Sm# | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
|----------------------------------------------|-------|------|---------|--------|---------------|-----------------------------------------|--------------|------------------------------------------------|
| <b>Tot Recoverable Hydrocarbons in Water</b> |       |      |         |        |               |                                         |              |                                                |
| TRH C <sub>6</sub> - C <sub>9</sub> P&T      | mg/L  | 0.04 | SEO-017 | <0.040 | [NT]          | [NT]                                    | Water        | 104    [N/T]                                   |
| TRH C <sub>10</sub> - C <sub>14</sub>        | mg/L  | 0.1  | SEO-020 | <0.10  | [NT]          | [NT]                                    | Water        | 53    [N/T]                                    |
| TRH C <sub>15</sub> - C <sub>20</sub>        | mg/L  | 0.2  | SEO-020 | <0.20  | [NT]          | [NT]                                    | Water        | 76    [N/T]                                    |
| TRH C <sub>29</sub> - C <sub>40</sub>        | mg/L  | 0.2  | SEO-020 | <0.20  | [NT]          | [NT]                                    | Water        | 93    [N/T]                                    |
| QUALITY CONTROL                              | UNITS | PQL  | METHOD  | Blank  | Duplicate Sm# | Duplicate<br>Base + Duplicate +<br>%RPD | Spike Sm#    | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
| <b>PAHs in Water</b>                         |       |      |         |        |               |                                         |              |                                                |
| Naphthalene                                  | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | 97    [N/T]                                    |
| Acenaphthylene                               | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | 108    [N/T]                                   |
| Acenaphthene                                 | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | 113    [N/T]                                   |
| Fluorene                                     | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | [NT]                                           |
| Phenanthrene                                 | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | 120    [N/T]                                   |
| Anthracene                                   | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | 114    [N/T]                                   |
| Fluoranthene                                 | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | 116    [N/T]                                   |
| Pyrene                                       | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | 121    [N/T]                                   |
| Benzo[a]anthracene                           | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | [NT]                                           |
| Chrysene                                     | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | [NT]                                           |
| Benzo[b,k]fluoranthene                       | µg/L  | 1.0  | SEO-030 | <1     | [NT]          | [NT]                                    | Water        | [NT]                                           |
| Benzo[a]pyrene                               | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | 103    [N/T]                                   |
| Indeno[123-cd]pyrene                         | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | [NT]                                           |
| Dibenzo[ah]anthracene                        | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | [NT]                                           |
| Benzo[ghi]perylene                           | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water        | [NT]                                           |
| Surrogate                                    | %     |      | SEO-030 | [NT]   | [NT]          | [NT]                                    | Water        | 116    [N/T]                                   |

| QUALITY CONTROL               | UNITS | PQL | METHOD  | Blank | Duplicate Sm# | Duplicate Base + Duplicate + %RPD | Spike Sm# | Matrix Spike % Recovery Duplicate + %RPD |
|-------------------------------|-------|-----|---------|-------|---------------|-----------------------------------|-----------|------------------------------------------|
| <b>OC Pesticides in Water</b> |       |     |         |       |               |                                   |           |                                          |
| HCB                           | µg/L  | 0.2 | SEO-005 | <0.2  | [NT]          | [NT]                              | Water     | [NT]                                     |
| BHC (other than g-BHC)        | µg/L  | 0.6 | SEO-005 | <0.6  | [NT]          | [NT]                              | Water     | 80    [N/T]                              |
| gamma-BHC(lindane)            | µg/L  | 0.2 | SEO-005 | <0.2  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Heptachlor                    | µg/L  | 0.2 | SEO-005 | <0.2  | [NT]          | [NT]                              | Water     | 82    [N/T]                              |
| Aldrin                        | µg/L  | 0.2 | SEO-005 | <0.2  | [NT]          | [NT]                              | Water     | 79    [N/T]                              |
| Heptachlor Epoxide            | µg/L  | 0.2 | SEO-005 | <0.2  | [NT]          | [NT]                              | Water     | [NT]                                     |
| DDE                           | µg/L  | 0.4 | SEO-005 | <0.4  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Endosulfan                    | µg/L  | 0.4 | SEO-005 | <0.4  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Chlordane cis & trans         | µg/L  | 0.4 | SEO-005 | <0.4  | [NT]          | [NT]                              | Water     | [NT]                                     |
| trans-Nonachlor               | µg/L  | 0.2 | SEO-005 | <0.2  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Dieldrin                      | µg/L  | 0.2 | SEO-005 | <0.2  | [NT]          | [NT]                              | Water     | 83    [N/T]                              |
| Endrin                        | µg/L  | 0.2 | SEO-005 | <0.2  | [NT]          | [NT]                              | Water     | [NT]                                     |
| DDD                           | µg/L  | 0.4 | SEO-005 | <0.4  | [NT]          | [NT]                              | Water     | [NT]                                     |
| DDT                           | µg/L  | 0.4 | SEO-005 | <0.4  | [NT]          | [NT]                              | Water     | 76    [N/T]                              |
| Endosulfan Sulphate           | µg/L  | 0.2 | SEO-005 | <0.2  | [NT]          | [NT]                              | Water     | 84    [N/T]                              |
| Endrin Aldehyde               | µg/L  | 0.2 | SEO-005 | <0.2  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Methoxychlor                  | µg/L  | 0.2 | SEO-005 | <0.2  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Endrin Ketone                 | µg/L  | 0.2 | SEO-005 | <0.2  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Surrogate                     | %     |     | SEO-005 | [NT]  | [NT]          | [NT]                              | Water     | 106    [N/T]                             |
| QUALITY CONTROL               | UNITS | PQL | METHOD  | Blank | Duplicate Sm# | Duplicate Base + Duplicate + %RPD | Spike Sm# | Matrix Spike % Recovery Duplicate + %RPD |
| <b>PCBs in Water</b>          |       |     |         |       |               |                                   |           |                                          |
| Arochlor 1016                 | µg/L  | 0.1 | SEO-005 | <0.1  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Arochlor 1221                 | µg/L  | 0.1 | SEO-005 | <0.1  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Arochlor 1232                 | µg/L  | 0.1 | SEO-005 | <0.1  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Arochlor 1242                 | µg/L  | 0.1 | SEO-005 | <0.1  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Arochlor 1248                 | µg/L  | 0.1 | SEO-005 | <0.1  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Arochlor 1254                 | µg/L  | 0.1 | SEO-005 | <0.1  | [NT]          | [NT]                              | Water     | 119    [N/T]                             |
| Arochlor 1260                 | µg/L  | 0.1 | SEO-005 | <0.1  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Arochlor 1262                 | µg/L  | 0.1 | SEO-005 | <0.1  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Arochlor 1268                 | µg/L  | 0.1 | SEO-005 | <0.1  | [NT]          | [NT]                              | Water     | [NT]                                     |
| Surrogate                     | %     |     | SEO-005 | [NT]  | [NT]          | [NT]                              | Water     | 97    [N/T]                              |

| QUALITY CONTROL                       | UNITS | PQL      | METHOD                  | Blank     | Duplicate Sm#           | Duplicate               | Spike Sm# | Matrix Spike % Recovery |
|---------------------------------------|-------|----------|-------------------------|-----------|-------------------------|-------------------------|-----------|-------------------------|
| Inorganics                            |       |          |                         |           |                         | Base + Duplicate + %RPD |           | Duplicate + %RPD        |
| Hexavalent Chromium, Cr <sup>6+</sup> | mg/L  | 0.05     | SEI-042                 | <0.050    | [NT]                    | [NT]                    | 35495-1   | [NT]                    |
| Fluoride, F                           | mg/L  | 0.08     | SEI-038                 | <0.080    | [NT]                    | [NT]                    | 35495-1   | 107    108    RPD: 1    |
| Alkyl Mercury                         | mg/L  | 0.0001   | Ext-022                 | <0.0001   | [NT]                    | [NT]                    | 35495-1   | [NT]                    |
| QUALITY CONTROL                       | UNITS | PQL      | METHOD                  | Blank     | Duplicate Sm#           | Duplicate               | Spike Sm# | Matrix Spike % Recovery |
| Metals in water Dissolved             |       |          |                         |           |                         | Base + Duplicate + %RPD |           | Duplicate + %RPD        |
| Arsenic                               | mg/L  | 0.05     | SEM-010                 | <0.050    | 35495-1                 | <0.050    <0.050        | 35495-2   | 79    100    RPD: 23    |
| Cadmium                               | mg/L  | 0.006    | SEM-010                 | <0.006    | 35495-1                 | <0.006    <0.006        | 35495-2   | 77    93    RPD: 19     |
| Chromium                              | mg/L  | 0.005    | SEM-010                 | <0.005    | 35495-1                 | <0.005    <0.005        | 35495-2   | 97    93    RPD: 4      |
| Copper                                | mg/L  | 0.01     | SEM-010                 | <0.01     | 35495-1                 | <0.01    <0.01          | 35495-2   | 98    89    RPD: 10     |
| Lead                                  | mg/L  | 0.04     | SEM-010                 | <0.04     | 35495-1                 | <0.04    <0.04          | 35495-2   | 100    88    RPD: 13    |
| Mercury                               | mg/L  | 0.0005   | SEM-005                 | <0.0005   | 35495-1                 | <0.0005    <0.0005      | 35495-2   | 95    91    RPD: 4      |
| Nickel                                | mg/L  | 0.004    | SEM-010                 | <0.004    | 35495-1                 | 0.02    0.02    RPD: 0  | 35495-2   | 97    87    RPD: 11     |
| Zinc                                  | mg/L  | 0.005    | SEM-010                 | <0.005    | 35495-1                 | 0.02    0.02    RPD: 0  | 35495-2   | 79    96    RPD: 19     |
| QUALITY CONTROL                       | UNITS | Dup. Sm# | Duplicate               | Spike Sm# | Matrix Spike % Recovery |                         |           |                         |
| Inorganics                            |       |          | Base + Duplicate + %RPD |           | Duplicate + %RPD        |                         |           |                         |
| Hexavalent Chromium, Cr <sup>6+</sup> | mg/L  | [NT]     | [NT]                    | Control   | 85    94    RPD: 10     |                         |           |                         |
| Fluoride, F                           | mg/L  | [NT]     | [NT]                    | Control   | [NT]                    |                         |           |                         |
| Alkyl Mercury                         | mg/L  | [NT]     | [NT]                    | Control   | [NT]                    |                         |           |                         |

**Result Codes**

[INS] : Insufficient Sample for this test  
[NR] : Not Requested  
[NT] : Not tested

[HBG] : Results not Reported due to High Background Interference  
\* : Not part of NATA Accreditation  
[N/A] : Not Applicable

**Result Comments**

Mercury analysed by Centre for Advanced Analytical Chemistry.

Date Organics extraction commenced: 09/03/05

NATA Corporate Accreditation No. 2562, Site No 4354

Note: Test results are not corrected for recovery (excluding Dioxins/Furans and PAH in XAD and PUF).

**Quality Control Protocol**

**Reagent Blank:** Sample free reagents carried through the preparation/extraction/digestion procedure and analysed at the beginning of every sample batch analysis. For larger projects, a reagent blank is prepared and analysed with every 20 samples.

**Duplicate:** A separate portion of a sample being analysed which is treated the same as the other samples in the batch. A duplicate is prepared at least every 20 samples.

**Matrix Spike Duplicates:** Sample replicates spiked with identical concentrations of target analyte(s). The spiking occurs during the sample preparation and prior to the extraction/digestion procedure. They are used to document the precision and accuracy of a method in a given sample matrix. Where there is not enough sample available to prepare a spiked sample, another known soil/sand or water (or Milli-Q water) may be used. A duplicate spiked sample is prepared at least every 20 samples.

**Surrogate Spike:** Added to all samples requiring analysis for organics (where relevant) prior to extraction. Used to determine the extraction efficiency. They are organic compounds which are similar to the target analyte(s) in chemical composition and behaviour in the analytical process, but which are not normally found in environmental samples.

**Internal Standard:** Added to all samples requiring analysis for organics (where relevant) after the extraction process; the compounds serve to give a standard of retention time and response, which is invariant from run-to-run with the instruments.

**Control Standards:** Prepared from a source independent of the calibration standards. At least one control standard is included in each run to confirm calibration validity.

**Additional QC Samples:** A calibration standard and blank are run after every 20 samples of an instrumental analysis run to assess analytical drift.



Lemko Place  
PENRITH NSW 2750

Page

**FAX: 02 9666 1364**

Results required by: TUESDAY, 08 - 03 - 2005

**Legend:**

Lemko Place

PENRITH NSW 2750

P O Box 880

PENRITH NSW 2751

Tel: (02) 4722 2700

Fax: (02) 4722 6161

email: info@geotech.com.au

TO: SGS ENVIRONMENTAL SERVICES

BOTANY TECHNICAL CENTRE

ORICA INDUSTRIAL PARK, GATE 3, DENISON STREET

MATRAVILLE NSW 2036

PH: 02 9666 1426 FAX: 02 9666 1364

Sampling Date: 01.03.05

Job No: 2883/1

Sampled By: MK

Project:

Project Manager: PG

Location: STATION STREET, PENRITH

ATTN:

| Sampling details |                              |                           | Results required by: TUESDAY, 08 - 03 - 2005         |                |        |                                           |     |                       |         |                            |     |                |
|------------------|------------------------------|---------------------------|------------------------------------------------------|----------------|--------|-------------------------------------------|-----|-----------------------|---------|----------------------------|-----|----------------|
| Location         | Depth (m)                    | Sample type<br>Soil Water | Heavy Metals<br>As, Cd, Cr, Cu,<br>Pb, Hg, Ni and Zn | OCP            | PCB    | VOC<br>&<br>BTEX                          | PAH | Fluorine              | Cr (VI) | Alkyl<br>Mercury           | TRH | KEEP<br>SAMPLE |
| 35495            |                              |                           |                                                      |                |        |                                           |     |                       |         |                            |     |                |
| 1 GW1            |                              | WGWP                      | ✓                                                    | ✓              | ✓      | ✓                                         | ✓   | ✓                     | ✓       | ✓                          | ✓   | YES            |
| 2 GW2            |                              | WGWP                      | ✓                                                    | ✓              | ✓      | ✓                                         | ✓   | ✓                     | ✓       | ✓                          | ✓   | YES            |
| 3 GW3            |                              | WGWP                      | ✓                                                    | ✓              | ✓      | ✓                                         | ✓   | ✓                     | ✓       | ✓                          | ✓   | YES            |
|                  |                              |                           | Received 01/03/05                                    |                |        |                                           |     |                       |         |                            |     |                |
|                  |                              |                           | By WS                                                |                |        |                                           |     |                       |         |                            |     |                |
|                  |                              |                           | Time any/pin                                         |                |        |                                           |     |                       |         |                            |     |                |
|                  |                              |                           | Samples intact                                       |                |        |                                           |     |                       |         |                            |     |                |
|                  |                              |                           | Load                                                 |                |        |                                           |     |                       |         |                            |     |                |
|                  |                              |                           | 35495                                                |                |        |                                           |     |                       |         |                            |     |                |
| Relinquished by  |                              |                           | Received by                                          |                |        |                                           |     |                       |         |                            |     |                |
| Name             | Signature                    | Date                      | Name                                                 | Signature      | Date   |                                           |     |                       |         |                            |     |                |
| PAUL GORMAN      | <i>Paul Gorman</i>           | 01.03.05                  | WGORMAN                                              | <i>WGORMAN</i> | 1-3-05 |                                           |     |                       |         |                            |     |                |
| Legend:          |                              |                           |                                                      |                |        |                                           |     |                       |         |                            |     |                |
| WG               | Water sample, glass bottle   | USG                       | Undisturbed soil sample (glass jar)                  | DSP            | ✓      | Disturbed soil sample (small plastic bag) |     | * Purge & Trap        |         | @ mole H <sup>+</sup> mole |     |                |
| WP               | Water sample, plastic bottle | DSG                       | Disturbed soil sample (glass jar)                    |                |        | Test required                             |     | # Geotechnique Screen |         |                            |     |                |



SGS Environmental Services  
Botany Industrial Park  
Gate 3, Denison St, Matraville NSW 2036  
Telephone Number : (61 2) 9666 1426  
Fax Number : (61 2) 9666 1364

**SAMPLE RECEIPT CONFIRMATION**

COMPANY : Geotechnique FAX NO. : 02 4722 6161  
ATTENTION : Paul Gorman PAGES : 1  
FROM : Aileen Hie DATE : 2/03/05

This is to confirm that samples for Project **2883/1, Penrith** were received on **01/03/05@5:30pm** the results are expected to be ready on **8/03/05**. Please quote SGS Reference: **35495** when making enquiries regarding this project. Please refer to below which details information about the integrity of the samples and other useful information.

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples, unless otherwise instructed.

|                                         |          |
|-----------------------------------------|----------|
| Samples received in good order:         | YES      |
| Samples received in correct containers: | YES      |
| Samples received without headspace:     | YES      |
| Sufficient quantity supplied:           | YES      |
| Upon receipt sample temperature:        | Cool     |
| Cooling Method:                         | Ice Pack |
| Sample containers provided by:          | SGS      |
| Samples Clearly Labelled:               | YES      |
| Turnaround time requested:              | Standard |
| Completed documentation received:       | YES      |

Comments:

***The signed chain of custody will be returned to you with the original report.***

The contents of this facsimile (including attachments) are privileged and confidential. Any unauthorised use of the contents is expressly prohibited. If you have received the document in error, please advise by telephone (reverse charges) immediately then shred the document. Thank you.

28 April 2005

**TEST REPORT**

**Geotechnique**

P.O. Box 880

PENRITH

NSW 2751

Your Reference: 2883/1, Penrith

Report Number: 36430

**Attention:** Paul Gorman

Dear Paul

The following samples were received from you on the date indicated.

Samples: Qty. 3 Waters

Date of Receipt of Samples: 07/04/05

Date of Receipt of Instructions: 07/04/05

Date Preliminary Report Faxed: 26/04/05

These samples were analysed in accordance with your written instructions.

A copy of the instructions is attached with the analytical report.

The results and associated quality control are contained in the following pages of this report.

Unless otherwise stated, solid samples are expressed on a dry weight basis (moisture has been supplied for your information only), air and liquid samples as received.

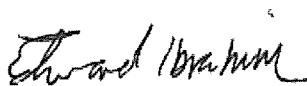
Should you have any queries regarding this report please contact the undersigned.

Yours faithfully

SGS ENVIRONMENTAL SERVICES



Sandra Taylor  
Supervisor



Edward Ibrahim  
Supervisor



Nick Sarlamis  
Supervisor

Page 1 of 13



NATA Endorsed Test Report

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NATA Accredited Laboratory No. 2562

SGS Australia Pty Ltd  
ABN 44 000 964 278

Environmental Services Botany Industrial Park Gate 3, Denison Street, Matraville 2036 NSW Australia  
t +61 (0)2 9666 1426 f +61 (0)2 9666 1364 url www.sgs.com

| Tot Recoverable Hydrocarbons in Water<br>Our Reference:<br>Your Reference<br>Sample Type | UNITS<br>-----<br>----- | 36430-1<br>GW1a<br>water | 36430-2<br>GW2a<br>water | 36430-3<br>GW3a<br>water |
|------------------------------------------------------------------------------------------|-------------------------|--------------------------|--------------------------|--------------------------|
| TRH C <sub>6</sub> - C <sub>9</sub> P&T                                                  | mg/L                    | <0.040                   | <0.040                   | <0.040                   |
| TRH C <sub>10</sub> - C <sub>14</sub>                                                    | mg/L                    | <0.10                    | <0.10                    | <0.10                    |
| TRH C <sub>15</sub> - C <sub>28</sub>                                                    | mg/L                    | <0.20                    | <0.20                    | <0.20                    |
| TRH C <sub>29</sub> - C <sub>36</sub>                                                    | mg/L                    | <0.20                    | <0.20                    | <0.20                    |



| PAHs in Water<br>Our Reference:<br>Your Reference<br>Sample Type | UNITS<br>-----<br>----- | 36430-1<br>GW1a<br>water | 36430-2<br>GW2a<br>water | 36430-3<br>GW3a<br>water |
|------------------------------------------------------------------|-------------------------|--------------------------|--------------------------|--------------------------|
| Naphthalene                                                      | µg/L                    | <0.5                     | 0.5                      | <0.5                     |
| Acenaphthylene                                                   | µg/L                    | <0.5                     | <0.5                     | <0.5                     |
| Acenaphthene                                                     | µg/L                    | <0.5                     | <0.5                     | <0.5                     |
| Fluorene                                                         | µg/L                    | <0.5                     | <0.5                     | <0.5                     |
| Phenanthrene                                                     | µg/L                    | <0.5                     | <0.5                     | <0.5                     |
| Anthracene                                                       | µg/L                    | <0.5                     | <0.5                     | <0.5                     |
| Fluoranthene                                                     | µg/L                    | <0.5                     | <0.5                     | <0.5                     |
| Pyrene                                                           | µg/L                    | <0.5                     | <0.5                     | <0.5                     |
| Benzo[a]anthracene                                               | µg/L                    | <0.5                     | <0.5                     | <0.5                     |
| Chrysene                                                         | µg/L                    | <0.5                     | <0.5                     | <0.5                     |
| Benzo[b,k]fluoranthene                                           | µg/L                    | <1                       | <1                       | <1                       |
| Benzo[a]pyrene                                                   | µg/L                    | <0.5                     | <0.5                     | <0.5                     |
| Indeno[123-cd]pyrene                                             | µg/L                    | <0.5                     | <0.5                     | <0.5                     |
| Dibenzo[ah]anthracene                                            | µg/L                    | <0.5                     | <0.5                     | <0.5                     |
| Benzo[ghi]perylene                                               | µg/L                    | <0.5                     | <0.5                     | <0.5                     |
| Surrogate                                                        | %                       | 114                      | 92                       | 99                       |



| Low Level Pesticides - ANZECC<br>Our Reference:<br>Your Reference<br>Sample Type | UNITS<br>-----<br>----- | 36430-1<br>GW1a<br>water | 36430-2<br>GW2a<br>water | 36430-3<br>GW3a<br>water |
|----------------------------------------------------------------------------------|-------------------------|--------------------------|--------------------------|--------------------------|
| $\alpha$ Chlordane                                                               | ng/L                    | <40                      | <40                      | <40                      |
| gamma Chlordane                                                                  | ng/L                    | <40                      | <40                      | <40                      |
| <i>p,p'</i> -DDT                                                                 | ng/L                    | <10                      | <10                      | <10                      |
| Endosulfan Sulphate                                                              | ng/L                    | <50                      | <50                      | <50                      |
| Endrin                                                                           | ng/L                    | <20                      | <20                      | <20                      |
| Heptachlor                                                                       | ng/L                    | <90                      | <90                      | <90                      |
| Lindane                                                                          | ng/L                    | <200                     | <200                     | <200                     |
| Aldrin                                                                           | ng/L                    | <20                      | <20                      | <20                      |
| <i>p,p'</i> -DDE                                                                 | ng/L                    | <10                      | <10                      | <10                      |
| <i>p,p'</i> -DDD                                                                 | ng/L                    | <10                      | <10                      | <10                      |
| Dieldrin                                                                         | ng/L                    | <20                      | <20                      | <20                      |
| $\alpha$ Endosulfan                                                              | ng/L                    | <50                      | <50                      | <50                      |
| $\beta$ Endosulfan                                                               | ng/L                    | <50                      | <50                      | <50                      |
| Methoxychlor                                                                     | ng/L                    | <40                      | <40                      | <40                      |
| Mirex                                                                            | ng/L                    | <10                      | <10                      | <10                      |
| HCB                                                                              | ng/L                    | <10                      | <10                      | <10                      |
| d14-p-terphenyl (Surrogate)                                                      | %                       | 80                       | 80                       | 40                       |



| PCBs in Water<br>Our Reference:<br>Your Reference<br>Sample Type | UNITS<br>-----<br>----- | 36430-1<br>GW1a<br>water | 36430-2<br>GW2a<br>water | 36430-3<br>GW3a<br>water |
|------------------------------------------------------------------|-------------------------|--------------------------|--------------------------|--------------------------|
| PCB Congener C28                                                 | µg/L                    | <0.02                    | <0.02                    | <0.02                    |
| PCB Congener C52                                                 | µg/L                    | <0.01                    | <0.01                    | <0.01                    |
| PCB Congener C101                                                | µg/L                    | <0.005                   | <0.005                   | <0.005                   |
| PCB Congener C118                                                | µg/L                    | <0.005                   | <0.005                   | <0.005                   |
| PCB Congener C138                                                | µg/L                    | <0.005                   | <0.005                   | <0.005                   |
| PCB Congener C153                                                | µg/L                    | <0.005                   | <0.005                   | <0.005                   |
| PCB Congener C180                                                | µg/L                    | <0.005                   | <0.005                   | <0.005                   |



| Metals in water (dissolved)<br>Our Reference:<br>Your Reference<br>Sample Type | UNITS<br>-----<br>----- | 36430-1<br>GW1a<br>water | 36430-2<br>GW2a<br>water | 36430-3<br>GW3a<br>water |
|--------------------------------------------------------------------------------|-------------------------|--------------------------|--------------------------|--------------------------|
| Arsenic                                                                        | mg/L                    | 0.006                    | 0.003                    | 0.001                    |
| Boron                                                                          | mg/L                    | 0.022                    | 0.020                    | 0.017                    |
| Cadmium                                                                        | mg/L                    | <0.001                   | <0.001                   | <0.001                   |
| Chromium                                                                       | mg/L                    | 0.002                    | 0.001                    | 0.002                    |
| Copper                                                                         | mg/L                    | <0.001                   | <0.001                   | 0.002                    |
| Lead                                                                           | mg/L                    | <0.001                   | <0.001                   | 0.0020                   |
| Mercury                                                                        | mg/L                    | <0.0001                  | 0.0002                   | <0.0001                  |
| Nickel                                                                         | mg/L                    | 0.006                    | 0.013                    | 0.022                    |
| Selenium                                                                       | mg/L                    | <0.005                   | 0.005                    | 0.005                    |
| Tin                                                                            | mg/L                    | <0.005                   | <0.005                   | <0.005                   |
| Zinc                                                                           | mg/L                    | <0.001                   | 0.007                    | 0.013                    |



|                             |       |         |         |         |
|-----------------------------|-------|---------|---------|---------|
| Total Phenolics in Water    | UNITS | 36430-1 | 36430-2 | 36430-3 |
| Our Reference:              | ----- | GW1a    | GW2a    | GW3a    |
| Your Reference              | ----- | water   | water   | water   |
| Sample Type                 |       |         |         |         |
| Total Phenolics (as Phenol) | mg/L  | <0.050  | <0.050  | <0.050  |



| Inorganics<br>Our Reference:<br>Your Reference<br>Sample Type | UNITS<br>-----<br>----- | 36430-1<br>GW1a<br>water | 36430-2<br>GW2a<br>water | 36430-3<br>GW3a<br>water |
|---------------------------------------------------------------|-------------------------|--------------------------|--------------------------|--------------------------|
| Fluoride, F                                                   | mg/L                    | 0.14                     | 0.14                     | 0.12                     |
| Hexavalent Chromium, Cr <sup>6+</sup>                         | mg/L                    | <0.050                   | <0.050                   | <0.050                   |
| Total Cyanide                                                 | mg/L                    | <0.0050                  | 0.0080                   | <0.0050                  |



| Method ID      | Methodology Summary                                                                                                                                                                                                                     |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SEO-017</b> | BTEX/TRH C6-C9 - Determination by Purge and Trap Gas Chromatography with Flame Ionisation Detection (FID) and Photo Ionisation Detection (PID). The surrogate spike used is aaa-trifluorotoluene.                                       |
| <b>SEO-020</b> | TRH - Determination of Total Recoverable Hydrocarbons by gas chromatography following extraction with DCM/Acetone for solids and DCM for liquids.                                                                                       |
| <b>SEO-030</b> | PAHs by GC/MS - Determination of Polynuclear Aromatic Hydrocarbons (PAH's) by Gas Chromatography / Mass Spectrometry following extraction with dichloromethane or dichloromethane/acetone. The surrogate spike used is p-Terphenyl-d14. |
| <b>Ext-003</b> | Analysis subcontracted to SGS Environmental Perth.                                                                                                                                                                                      |
| <b>Ext-034</b> | Analysed by MGT, Victoria.                                                                                                                                                                                                              |
| <b>SEI-065</b> | Total Phenolics - determined colorimetrically following steam stripping of the sample. Based on APHA 20th ED, 5530-D.                                                                                                                   |
| <b>SEI-038</b> | Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA 20th ED, 4110 -B.                                                                                                                              |
| <b>SEI-042</b> | Hexavalent Chromium (Cr6+) - determined colourimetrically. Soils are extracted with warm water first, in accordance with APHA 20th ED, 3500-Cr-C.                                                                                       |
| <b>SEI-043</b> | Cyanide - determined colourimetrically, following steam stripping from an acidified sample. Based on APHA 20th ED, 4500-CN_C,E.                                                                                                         |



| QUALITY CONTROL                          | UNITS | PQL  | METHOD  | Blank  | Duplicate Sm# | Duplicate<br>Base + Duplicate +<br>%RPD | Spike Sm# | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
|------------------------------------------|-------|------|---------|--------|---------------|-----------------------------------------|-----------|------------------------------------------------|
| Tot Recoverable<br>Hydrocarbons in Water |       |      |         |        |               |                                         |           |                                                |
| TRH C <sub>6</sub> - C <sub>9</sub> P&T  | mg/L  | 0.04 | SEO-017 | <0.040 | [NT]          | [NT]                                    | Water     | 92    [N/T]                                    |
| TRH C <sub>10</sub> - C <sub>14</sub>    | mg/L  | 0.1  | SEO-020 | <0.10  | [NT]          | [NT]                                    | Water     | 118    [N/T]                                   |
| TRH C <sub>15</sub> - C <sub>28</sub>    | mg/L  | 0.2  | SEO-020 | <0.20  | [NT]          | [NT]                                    | Water     | 130    [N/T]                                   |
| TRH C <sub>29</sub> - C <sub>36</sub>    | mg/L  | 0.2  | SEO-020 | <0.20  | [NT]          | [NT]                                    | Water     | 128    [N/T]                                   |
| QUALITY CONTROL                          | UNITS | PQL  | METHOD  | Blank  | Duplicate Sm# | Duplicate<br>Base + Duplicate +<br>%RPD | Spike Sm# | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
| PAHs in Water                            |       |      |         |        |               |                                         |           |                                                |
| Naphthalene                              | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | 93    [N/T]                                    |
| Acenaphthylene                           | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | 98    [N/T]                                    |
| Acenaphthene                             | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | 104    [N/T]                                   |
| Fluorene                                 | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | [NT]                                           |
| Phenanthrene                             | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | 85    [N/T]                                    |
| Anthracene                               | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | 84    [N/T]                                    |
| Fluoranthene                             | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | 103    [N/T]                                   |
| Pyrene                                   | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | 93    [N/T]                                    |
| Benzo[a]anthracene                       | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | [NT]                                           |
| Chrysene                                 | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | [NT]                                           |
| Benzo[b,k]fluoranthene                   | µg/L  | 1.0  | SEO-030 | <1     | [NT]          | [NT]                                    | Water     | [NT]                                           |
| Benzo[a]pyrene                           | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | 108    [N/T]                                   |
| Indeno[123-cd]pyrene                     | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | [NT]                                           |
| Dibenzo[ah]anthracene                    | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | [NT]                                           |
| Benzo[ghi]perylene                       | µg/L  | 0.5  | SEO-030 | <0.5   | [NT]          | [NT]                                    | Water     | [NT]                                           |
| Surrogate                                | %     |      | SEO-030 | [NT]   | [NT]          | [NT]                                    | Water     | 119    [N/T]                                   |



| QUALITY CONTROL                  | UNITS     | PQL    | METHOD  | Blank   | Duplicate Sm# | Duplicate<br>Base + Duplicate<br>+ %RPD | Spike Sm# | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
|----------------------------------|-----------|--------|---------|---------|---------------|-----------------------------------------|-----------|------------------------------------------------|
| Low Level Pesticides<br>- ANZECC |           |        |         |         |               |                                         |           |                                                |
| $\alpha$ Chlordane               | ng/L      | 40     | Ext-003 | <40     | [NT]          | [NT]                                    | Control   | [NT]                                           |
| gamma Chlordane                  | ng/L      | 40     | Ext-003 | <40     | [NT]          | [NT]                                    | Control   | 115    [N/T]                                   |
| <i>p,p'</i> -DDT                 | ng/L      | 10     | Ext-003 | <10     | [NT]          | [NT]                                    | Control   | [NT]                                           |
| Endosulfan Sulphate              | ng/L      | 50     | Ext-003 | <50     | [NT]          | [NT]                                    | Control   | [NT]                                           |
| Endrin                           | ng/L      | 20     | Ext-003 | <20     | [NT]          | [NT]                                    | Control   | [NT]                                           |
| Heptachlor                       | ng/L      | 90     | Ext-003 | <90     | [NT]          | [NT]                                    | Control   | 93    [N/T]                                    |
| Lindane                          | ng/L      | 200    | Ext-003 | <200    | [NT]          | [NT]                                    | Control   | [NT]                                           |
| Aldrin                           | ng/L      | 20     | Ext-003 | <20     | [NT]          | [NT]                                    | Control   | 104    [N/T]                                   |
| <i>p,p'</i> -DDE                 | ng/L      | 10     | Ext-003 | <14     | [NT]          | [NT]                                    | Control   | [NT]                                           |
| <i>p,p'</i> -DDD                 | ng/L      | 10     | Ext-003 | <14     | [NT]          | [NT]                                    | Control   | [NT]                                           |
| Dieldrin                         | ng/L      | 20     | Ext-003 | <20     | [NT]          | [NT]                                    | Control   | 125    [N/T]                                   |
| $\alpha$ Endosulfan              | ng/L      | 50     | Ext-003 | <50     | [NT]          | [NT]                                    | Control   | [NT]                                           |
| $\beta$ Endosulfan               | ng/L      | 50     | Ext-003 | <50     | [NT]          | [NT]                                    | Control   | [NT]                                           |
| Methoxychlor                     | ng/L      | 40     | Ext-003 | <40     | [NT]          | [NT]                                    | Control   | [NT]                                           |
| Mirex                            | ng/L      | 10     | Ext-003 | <10     | [NT]          | [NT]                                    | Control   | [NT]                                           |
| HCB                              | ng/L      | 10     | Ext-003 | <10     | [NT]          | [NT]                                    | Control   | 87    [N/T]                                    |
| d14-p-terphenyl ( Surrogate)     | %         | 0      | Ext-003 | [NT]    | [NT]          | [NT]                                    | Control   | 33    [N/T]                                    |
| QUALITY CONTROL                  | UNITS     | PQL    | METHOD  | Blank   | Duplicate Sm# | Duplicate<br>Base + Duplicate +<br>%RPD | Spike Sm# | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
| PCBs in Water                    |           |        |         |         |               |                                         |           |                                                |
| PCB Congener C28                 | $\mu$ g/L | 0.02   | Ext-003 | <0.1    | [NT]          | [NT]                                    | Control   | [NT]                                           |
| PCB Congener C52                 | $\mu$ g/L | 0.01   | Ext-003 | <0.1    | [NT]          | [NT]                                    | Control   | [NT]                                           |
| PCB Congener C101                | $\mu$ g/L | 0.005  | Ext-003 | <0.1    | [NT]          | [NT]                                    | Control   | [NT]                                           |
| PCB Congener C118                | $\mu$ g/L | 0.005  | Ext-003 | <0.1    | [NT]          | [NT]                                    | Control   | [NT]                                           |
| PCB Congener C138                | $\mu$ g/L | 0.005  | Ext-003 | <0.1    | [NT]          | [NT]                                    | Control   | [NT]                                           |
| PCB Congener C153                | $\mu$ g/L | 0.005  | Ext-003 | <0.1    | [NT]          | [NT]                                    | Control   | [NT]                                           |
| PCB Congener C180                | $\mu$ g/L | 0.005  | Ext-003 | <0.1    | [NT]          | [NT]                                    | Control   | 115    [N/T]                                   |
| QUALITY CONTROL                  | UNITS     | PQL    | METHOD  | Blank   | Duplicate Sm# | Duplicate<br>Base + Duplicate +<br>%RPD | Spike Sm# | Matrix Spike %<br>Recovery<br>Duplicate + %RPD |
| Metals in water ( dissolved)     |           |        |         |         |               |                                         |           |                                                |
| Arsenic                          | mg/L      | 0.001  | Ext-034 | <0.001  | [NT]          | [NT]                                    | External  | 108    [N/T]                                   |
| Boron                            | mg/L      | 0.010  | Ext-034 | <0.010  | [NT]          | [NT]                                    | External  | 98    [N/T]                                    |
| Cadmium                          | mg/L      | 0.001  | Ext-034 | <0.001  | [NT]          | [NT]                                    | External  | 93    [N/T]                                    |
| Chromium                         | mg/L      | 0.001  | Ext-034 | <0.001  | [NT]          | [NT]                                    | External  | 104    [N/T]                                   |
| Copper                           | mg/L      | 0.001  | Ext-034 | <0.001  | [NT]          | [NT]                                    | External  | 96    [N/T]                                    |
| Lead                             | mg/L      | 0.001  | Ext-034 | <0.001  | [NT]          | [NT]                                    | External  | 96    [N/T]                                    |
| Mercury                          | mg/L      | 0.0001 | Ext-034 | <0.0001 | [NT]          | [NT]                                    | External  | 98    [N/T]                                    |
| Nickel                           | mg/L      | 0.001  | Ext-034 | <0.001  | [NT]          | [NT]                                    | External  | 96    [N/T]                                    |
| Selenium                         | mg/L      | 0.005  | Ext-034 | <0.005  | [NT]          | [NT]                                    | External  | 104    [N/T]                                   |



| QUALITY CONTROL                             | UNITS | PQL      | METHOD                               | Blank     | Duplicate Sm#                               | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Matrix Spike % Recovery<br>Duplicate + %RPD |
|---------------------------------------------|-------|----------|--------------------------------------|-----------|---------------------------------------------|--------------------------------------|-----------|---------------------------------------------|
| Metals in water ( dissolved)                |       |          |                                      |           |                                             |                                      |           |                                             |
| Tin                                         | mg/L  | 0.005    | Ext-034                              | <0.010    | [NT]                                        | [NT]                                 | External  | 101    [N/T]                                |
| Zinc                                        | mg/L  | 0.001    | Ext-034                              | <0.001    | [NT]                                        | [NT]                                 | External  | 93    [N/T]                                 |
| QUALITY CONTROL<br>Total Phenolics in Water | UNITS | PQL      | METHOD                               | Blank     | Duplicate Sm#                               | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Matrix Spike % Recovery<br>Duplicate + %RPD |
| Total Phenolics (as Phenol)                 | mg/L  | 0.05     | SEI-065                              | <0.050    | [NT]                                        | [NT]                                 | 36430-1   | 89    87    RPD: 2                          |
| QUALITY CONTROL<br>Inorganics               | UNITS | PQL      | METHOD                               | Blank     | Duplicate Sm#                               | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Matrix Spike % Recovery<br>Duplicate + %RPD |
| Fluoride, F                                 | mg/L  | 0.08     | SEI-038                              | <0.080    | 36430-1                                     | 0.14    [N/T]                        | 36430-1   | 97    98    RPD: 1                          |
| HexavalentChromium, Cr <sup>6+</sup>        | mg/L  | 0.05     | SEI-042                              | <0.050    | 36430-1                                     | <0.050    <0.050                     | 36430-1   | [NT]                                        |
| Total Cyanide                               | mg/L  | 0.005    | SEI-043                              | <0.0050   | 36430-1                                     | <0.0050    [N/T]                     | 36430-1   | [NT]                                        |
| QUALITY CONTROL<br>Inorganics               | UNITS | Dup. Sm# | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Matrix Spike % Recovery<br>Duplicate + %RPD |                                      |           |                                             |
| Fluoride, F                                 | mg/L  | [NT]     | [NT]                                 | Batch     | [NT]                                        |                                      |           |                                             |
| Hexavalent Chromium, Cr <sup>6</sup> +      | mg/L  | [NT]     | [NT]                                 | Batch     | 83    81    RPD: 2                          |                                      |           |                                             |
| Total Cyanide                               | mg/L  | [NT]     | [NT]                                 | Batch     | 87    84    RPD: 4                          |                                      |           |                                             |



**Result Codes**

[INS] : Insufficient Sample for this test  
[NR] : Not Requested  
[NT] : Not tested

[HBG] : Results not Reported due to High Background Interference  
\* : Not part of NATA Accreditation  
[N/A] : Not Applicable

**Result Comments**

OCP& PCB analysed by SGS Perth report no. 88275.

Date Organics extraction commenced: 13/04/05

NATA Corporate Accreditation No. 2562, Site No 4354

Note: Test results are not corrected for recovery (excluding Dioxins/Furans and PAH in XAD and PUF).

**Quality Control Protocol**

**Reagent Blank:** Sample free reagents carried through the preparation/extraction/digestion procedure and analysed at the beginning of every sample batch analysis. For larger projects, a reagent blank is prepared and analysed with every 20 samples.

**Duplicate:** A separate portion of a sample being analysed which is treated the same as the other samples in the batch. A duplicate is prepared at least every 20 samples.

**Matrix Spike Duplicates:** Sample replicates spiked with identical concentrations of target analyte(s). The spiking occurs during the sample preparation and prior to the extraction/digestion procedure. They are used to document the precision and bias of a method in a given sample matrix. Where there is not enough sample available to prepare a spiked sample, another known soil/sand or water (or Milli-Q water) may be used. A duplicate spiked sample is prepared at least every 20 samples.

**Surrogate Spike:** Added to all samples requiring analysis for organics (where relevant) prior to extraction. Used to determine the extraction efficiency. They are organic compounds which are similar to the target analyte(s) in chemical composition and behaviour in the analytical process, but which are not normally found in environmental samples.

**Internal Standard:** Added to all samples requiring analysis for organics (where relevant) after the extraction process; the compounds serve to give a standard of retention time and response, which is invariant from run-to-run with the instruments.

**Control Standards:** Prepared from a source independent of the calibration standards. At least one control standard is included in each run to confirm calibration validity.

**Additional QC Samples:** A calibration standard and blank are run after every 20 samples of an instrumental analysis run to assess analytical drift.

